

Reanalyzing the features of the traditional Turkish houses in view of the Covid-19 pandemic conditions

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Abstract

The convenience of the spatial usages of the current urban houses is questioned during the COVID-19 (SARS Cov-2) pandemic conditions and especially lockdowns. In this paper, the characteristics of the traditional Turkish house will be reconsidered in the light of the behaviors and needs that arise during the pandemic. In this context, both physical space conditions and cultural habits will be mentioned. Primarily, it is aimed to focus on concepts such as working from home (home-office), feeling of spatial confinement, isolation, longing for nature, introverted lifestyle, stockpiling, providing hygiene and distance socialization. Spatial richness, divisions, sections, extensions, open and semi-open spaces in the Turkish house, as well as the strong relationship with nature will be explained in the focus of the solutions they offer to the current needs. They are supported with authentic examples from both rural and urban areas. Considering that the epidemics and pandemics generally cause changes in architecture, the features of systems that have been used for years that can adapt to new needs have been reintroduced. Thus, a contribution to the architectural discussions on the post pandemic housing is expected within the outcomes of this work.

Keywords

Architectural challenges, COVID-19, SARS Cov-2, Traditional concepts, Turkish house.

1. Introduction

COVID-19 (SARS-CoV-2) pandemic changed the daily lives of millions of people and concomitantly triggered to question many regular habits. Housing design in the metropolitan cities transformed throughout the years in compliance with the more rapid, individual and technology dominated lifestyles, as well as the economic preferences. However, the convenience of the current urban style housing became a new matter of discussion after the pandemic. Following the lockdowns, the time spent at home perceptibly increased, whereas the daily mobility is reduced. Such conditions lead to the questioning of the spatial and urban settings in even some basic requirements of the sheltering concept. Conspicuously, new needs remind several old-style customs and spatial usages.

According to many researchers, traditional ways of food consumption and natural cosmetic products are found out to be healthier, despite all the developments in food industry. Hence, organic and ecological products progressively became high in demand (Golijan & Dimitrijevic, 2018). Traditional methods are usually combined with modern tools but strong debates are still continuing to find the best solutions for human body and a sustainable environment. A similar composition may be applied for the architecture. A recent research reveals the relevancy of the traditional concepts in the case of COVID-19 protocol, through Balinese houses (Putra, 2021).

Considering the historic events, infectious diseases, pandemics and epidemics triggered fundamental improvements in urban planning, sanitary systems and architectural designs (Megahed & Ghoneim, 2020). Several epidemics including the recent three; Tuberculosis, Cholera and Ebola showed the importance of the architects and designers on helping to fight the spread of the virus, as right spatial decisions can solve several critical problems (Murphy, 2020). When the past epidemics in history and rapid changes on the daily lives during the current pandemic taken into consideration, it can obviously be assumed that the

COVID-19 pandemic will also affect the future of the architecture. Prompt predictions have been published about what kind of change will happen (Ak, 2020; Alhusban et al., 2022; Kashdan, 2020). Still the discussions on the spatial requirements after the COVID-19 pandemic and potential solutions play a crucial role to lead the designers for functional results.

This study aims to encourage critical judgement on the current needs of the urban residences and reveal key approaches from traditional concepts of the Turkish house. The spatial problems and user needs that arise with the change in the normal flow of daily life constitute the main starting point of the research. Reanalysis of the former characteristics of houses based on current requirements will provide a new perspective for future designs. It is aimed to convey the advantageous features of a cultural heritage, which has existed for many years and present its solutions that correspond to today's problems. In this context, several specific features of Turkish house are described in reference to the physical and psychological problems occurred after the pandemic. In other words, physical conditions of the houses, psychological equilibrium during the lockdowns, hygiene and physical distance are discussed in consideration of the spatial and cultural elements of traditional Turkish house. Home-office concept, food storing, divisions and isolation, open and semi-open spaces, spatial diversity, relationship with nature, introverted way of living and production, hygiene and distant socializing are the main topics to be focused.

While working on these concepts, evaluations were made on different examples from both rural and urban areas. The methodology to reveal the spatial characteristics of the Turkish houses mainly depends on site work based on long researches and documentations of many years, as well as the personal observations of the authors corroborated with written sources. In this sense, three main criteria were considered for the selection of the given examples. First and above all, those having a specific feature that could offer an architectural solution to the difficul-

ties encountered during the pandemic were preferred. Secondly, authenticity of the related object is taken into consideration. Lastly, it is aimed to present various conditions with examples from different regions. While Istanbul, the capital city of the Ottoman Empire, had always been precursor to the architectural developments, examples from rural or underdeveloped areas can display several typical characteristics of an earlier period. In order to reveal diverse solutions for the current problems, the features of a long period which can reflect various distinctive characteristics of the Turkish house were examined. It covers particularly the period from the 17th century to the beginning of the 20th century.

2. Physical conditions of the houses

2.1. Home-office concept

The coronavirus pandemic obviously accelerated the usage of online platforms and digital working systems. Countless people in both developed and developing countries, including educators, worked from home during the lockdowns. Obviously, this unexpected situation confused home life and business life, and specialized physical spaces were needed. As not all the workers have a dedicated workstation in their home, several problems occurred such as children making noise in the background, unavailability of a suitable place for the laptop, necessity of working in variety of places throughout the day due to the daily requirements of the other family members and disruption of concentration while working on the sofa, in the kitchen or among household items (Xiao et al., 2021).

Although home-office working seems like a brand new concept that spread of internet brought into our lives it was a traditional way of working in former times. Especially, before the mid-19th century, when there were not so many offices, workplaces or plazas, various businesses were run from home. Relevant people were meeting and talking in the appropriately allocated place of the houses. "Harem" and "selamlık" are the well-known names of the two different parts established on large Otto-

man mansions. Such attitude was generalized in urban dwellings of 18th and 19th century (Kuban, 2017). Although the stratification of public and private spaces in the houses was named differently as dahiliye (interior) and hariciye (exterior) in the 18th century, they were considered to be the early versions of the sections called harem and selamlık in the 19th century (Akgün Özkaya, 2015). The sections in the houses were shaped according to the needs over the years and the original names reflect their tradition.

As Harem is the domestic part, where women and small children accompanying their mothers can spend their time, it is commonly thought that the distinction between Harem and Selamlık is only related to men and women. However, "Selamlık" is a word that comes from "selam", which is a word of greeting in Turkish. This is the area where the outsider is greeted without being allowed into the privacy of the house. Incoming business people were taken to this area where the man of the house usually worked. Most government officials such as judges, governors, viziers or the notables were handling their jobs in the Selamlık and this situation was also mentioned in several Turkish novels (Bertram, 2012). In those years, it was not common for women to work outside of their house, garden or field. Therefore, the Selamlık turned into a place where only men met. It was built as a separate structure for some mansions, while it can also be found as a specialized room accessible through a door or corridor from the entrance. The work could include either cash proceeds, preparing documents by hand, drawing or meetings to exchange ideas etc.

Briefly stated, a specialized space was reserved for the traditional way of home-office working particularly at the late Ottoman period Turkish houses in Istanbul. It is quite obvious that similar conditions lead to similar solutions, regardless of the period of time. Selamlık proves the certain necessity of a dedicated working space in houses of the post pandemic world, where working from home becomes widespread with the help of digital technology.

2.2. Food storing

In order to reduce the number of the active cases and limit the spread of the virus, millions of people were asked or ordered to stay at home by their governments. As everything seems accessible in the modern urban life, preparation for the next season and food storage were not needed. However, when unexpected restrictions came and lockdowns were announced, the first thing to do for numerous urban people was to pile up and empty the shelves of supermarkets with panic as if nothing was enough at home (Nicola et al., 2020).

Within the traditional Turkish house, there were always a kind of specific spaces left for storage. Dry foods were preserved at a place having appropriate physical conditions, such as a storehouse, cellar, kitchen, warehouse or basement. Some products were bought or picked at their season and stocked up to consume day by day. Preparations were made according to the season. For example, pickles were set up, fruit clusters and jams were made (Şavkay, 2000).

Traditional Turkish houses in the early period were a kind of complex, where the structures for different usages had been placed together (Kuban, 2017). In such complexes, the spaces to store food like garner or storehouse (original name: ambar) are built as a separate unit. Even today these structures can be found near the old houses at the rural areas. The storage units (garner) of the farmhouses belonging to wealthy families are almost house-sized, whereas there are also smaller ones enabling to store enough food for a small family (Figure 1).

In addition to them, examples having the storehouse inside the main dwelling can be encountered both in rural and urban areas. A kitchen, which is generally placed at the ground floor and a cellar in a connection with that kitchen are the essential spaces of the houses. A storage unit in the form of a cupboard is generally located in the kitchen or the cellar of a house. Occasionally it can be encountered in traditional holes (sofa). The storage units have one or several covers on their upper part. As the wooden storage units provide right temperature and moisture conditions, convenient



Figure 1. Garner, West Antalya Region (Source: Kara Yüksel, 2021).



Figure 2. Storage unit in the shape of a cupboard (left), storage unit in the shape of an armchair (right) (Source: Nebioğlu, 2021).

foods are stored inside them for a long time without spoiling. Furthermore, in some regions store units can also be found in the shape of an armchair inside a room. These units, which are formed by hammering timber pieces together, are at the sitting height. After the food is placed in this storage unit, the wooden lid is closed and a cushion is placed on it to create a soft and heart-warming interior surface. Hereby the storage space can be used as a sitting unit (Figure 2). The elaborateness on the design of the traditional Turkish house with the organization of the spaces according to the needs of the household is also reflected on the store units. The panic at the beginning of the lockdowns and the giant grocery shopping without knowing where to stock them reminds old habits and spaces.

2.3. Divisions and isolation

During the pandemic quarantines, all the people living at the same flat had to spend a long time together. When everyone in the house needed a private space, today's open-plan houses, which are thought to be multifunctional,

have become uncomfortable (Ak, 2020). In contrast, suitable conditions for isolation are found in traditional Turkish houses even in different geographies. The distinctive designs of rural and urban dwellings offer solutions to this issue from two



Figure 3. Divisions providing thermal, acoustical and visual isolation from a mansion in Istanbul (Source: Yağcı Ergün, 2015).



Figure 4. Closet for bedding 'yükçük' (left), bathing cubicle 'gusülhane' (right), Akseki (Source: Nebioğlu, 2020).



Figure 5. The rotating cabinets used between the Harem and the Selamlık, Safranbolu (Source: Nebioğlu, 2019).

different perspectives; separation of the spaces and the sufficiency of each individual units.

Traditional mansions in Istanbul from the last period of the Ottoman Empire are typically formed with individual units, junctions and divisions. The mansions contain a number of spaces including halls and rooms (Eldem, 1984). Besides a spatial distinction, the divisions provide thermal, acoustical and visual isolation. It improves the occupant comfort, especially in the houses where more than two family member lives. The partitions can be vertically through stairs or horizontally in the use of junctions permitting various plan compositions (Erdenen, 2006; Eldem, 1984). The divisions enable the household to do different activities from each other and the room sizes are adequate. Post-pandemic housing might introduce such partitions in layout and could be the end of open-plan spaces (Megahed & Ghoneim, 2020). Even the stairwells in those traditional houses are commonly accessed through doors (Figure 3). There are also different sections in some mansions. The plan composition formed by the combinations of various sections is one of the most characteristic features of the Turkish house (Eldem, 1984). Junctions and divisions are frequently used especially at the mansions in Istanbul from the 18th and 19th century. Moreover, each floor of an urban mansion is usually spatially sufficient to meet the requirements of a person so that an isolation can be made in case of infection.

Furthermore, an old specific feature of the traditional Turkish house has to be mentioned. During the required quarantine period of a SARS-CoV-2 infected person, isolation was challenging for the household of the current urban houses because in those modern flats the spaces are designed to be utilized for only one specific function. There is bathroom for hand washing, kitchen for eating and bedroom for sleeping. Within the traditional Turkish house each room is multifunctional and hereby they act as an independent unit (Kuban, 2017). A single Turkish room represents a house by itself as the well-known architectural historians Eldem and Kuban had already stated. The room creates a

meaningful whole with the interior elements like cupboard and *seki*, and the surrounding spaces like *eyvan* and *hayat* (Kuban, 2017). The room of the traditional Turkish house is designed to meet all the daily activities and needs of a nuclear family; such as sleeping, bathing, eating, sitting and spending free time without any spatial problem (Günay, 2014). Due to the variation of possibilities, it is possible to spend a long time in the same room (Bektaş, 2016). This unit, which was built for a nuclear family in the past, has a quarantine room arrangement that will meet all the daily needs of an infected person (Figure 4). As urban areas are precursor to reflect the new architectural trends with several influences, this typical characteristic rooms are only found in the rural areas.

Lastly, the rotating cabinets used between the *Harem* and the *Selamlık* in some large mansions may very well be a practical solution to be used in the isolation phase (Figure 5).

3. Psychological balance during the lockdowns

3.1. Open and semi-open spaces

During the coronavirus pandemic, longing for open and semi-open spaces has increased. However, these areas, which can meet many needs both physically and spiritually, do not take much place in the current urban home layouts. Studies show that outputs that positively affect mental health such as self-esteem, life satisfaction and individual happiness are definitely related to the frequency of green spaces in the environment where people live and the green landscape that can be seen from their homes. Green spaces also make a big contribution to reduce depression, loneliness and anxiety in people (Soga et al., 2021).

Classic Turkish house, which was generally located in a garden, consisted of the combination of semi-open and closed areas (Kuban, 2017). *Hayat*, which means life, was the semi-open space, where the daily life was constructed. Although it was enclosed and incorporated into the main building over time, regardless of the region they were located in, the main floor (usually the upper one) of the early period houses mostly had “*Hayat*” spaces (Figure 6).



Figure 6. Hayat, Mostar (Source: Nebioğlu, 2019).

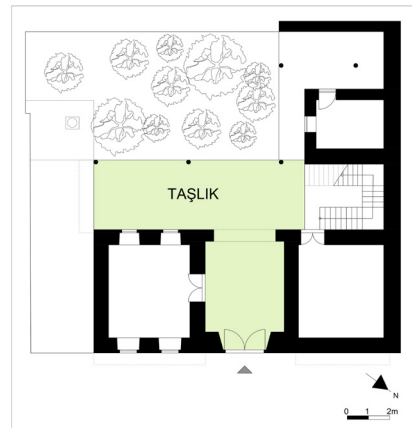


Figure 7. Taşlık, Antalya. (Photos: Nebioğlu, 2021, Drawing: Generated by the authors based on Urfaloğlu, 2010).

This is a penumbra, private but at the same time communal living space that opens directly to nature (Bektaş, 2016). As used for all kinds of daily activities, this space is the existential continuation of the room (Kuban, 2017). Traditional Turkish house with its open, semi-open and indoor arrangement gives the opportunity to experience all climates to the fullest (Bektaş, 2016). The ground



Figure 8. An oriel creating spatial richness, Istanbul (Source: Yağcı Ergün, 2016).

floor consisted of semi-open “Taşlık” (stony entrance hall) and related service areas (Figure 7). Behind the “Taşlık”, in a garden large enough for a family to take care of, there were usually fruit trees, vegetables and flowers of that region (Bektaş, 2016).

In the rural areas, an open or semi-open space overlooking the garden has been designed, albeit in the name and configuration that varies according to the regions. For example, “Çardak” (gazebo) was used both for daily work and sitting.

It is also worth to mention balconies, although they are generally encountered on the very late examples of the traditional Turkish house.

Briefly, the desire to go outside to the nature, which is needed both mentally and physically during the pandemic period, could be met in traditional Turkish houses. Even if the house typology, material and landscape vary according to the geographical conditions and climate of the region, the relationship between open space and indoor space has been witnessed for centuries. Especially, the semi-open spaces improve the physical conditions by weather protection and controlling the air circulation between open and indoor spaces, as well as enabling to get fresh air.

3.2. Spatial diversity

In parallel with the spread of living apart from the family for various reasons, the houses got smaller. For those living alone in a studio flat, working from home has disrupted the separation of work and leisure time. Even if the studio type apartments are spacious, they do not have enticing places. On the other hand, traditional Turkish houses were not only large enough for all needs, but also contained different spatial configurations. Interior elevation differences, high ceilings, passages, sections, stairs, terraces and oriels were creating spatial richness in the houses. Mainly with the influence of European styles on the houses, even curved forms can be found in plans and sections (Ergün, 2021). Arches and domes were used together with the common flat surfaces. Different types of extensions and articulations generate lively spaces (Figure 8).

Besides the spatial dynamism of the mansions within themselves, a structural diversity is provided with different units in the same garden. For example, guesthouse, Turkish bath (*hamam*), kitchen, barn, working unit, glasshouse, boathouse (only for the seaside mansions), kiosk, pavilion or annex could be constructed beside the main mansion, where the family lives. This variety did not give the feeling of being stuck in a certain place even if a person had to stay at home for days or weeks. Moreover, as it is mentioned in numerous sources that most of the mansions have large gardens bedecked with various flowers, trees and fruit trees (Kucukerman, 1986; Hellier & Venturi, 1993; Eldem, 1987). As water was an essential component of the landscape, wells, fountains or pools were typically encountered (Hellier & Venturi, 1993; Eldem, 1987). Small bridges were built to enliven the atmosphere of the garden. Correspondingly, in the cases where the land of the mansion was divided into two by a road, bridges over the road were used.

3.3. Relationship with nature

During the pandemic, in addition to the increased need for open and semi-open spaces, the relationship of the

houses with direct sunlight and natural wind has gained importance. Perhaps, one of the most important features of the traditional Turkish houses is to adapt to nature without fighting it. The fact that the houses face the sunrise and the rooms are placed in such a way that they receive the prevailing wind are concrete indicators of this feature (Bektaş, 2016).

The main floor has been raised from the ground as much as possible to receive as much light, sun, air and view, and the bottom of this floor has been completely or partially emptied (Eldem, 1954). The houses were designed to get plenty of sun as possible and the living areas are commonly the sunniest spaces on the first floors. Practically all the residences have good natural lighting conditions. Not only the open and semi-open spaces maintain the relationship with nature, but the whole design of the dwellings were structured in a harmony in this regard. As an example, an outer sofa that can have sunlight and breeze as much as possible is a cosy place to spend a whole day (Figure 9). Parallel to the developments in technology and trends, sizes and numbers of the glass windows were increased and even on the latest examples of the traditional Turkish houses in Istanbul, windows were always openable to take fresh air. As the artificial electric consumption in houses generally increased during the pandemic, importance of the natural lighting revealed again. Recent studies have shown that enough natural lighting in houses does not only have economic advantage for the users, it has also positive effects on their mental and physical health (Muñoz-González et al., 2021).

Also in the city, in narrow and crowded neighborhoods, the living floor was always raised as high as possible (Eldem, 1954). Thus, a garden area was created on the ground even for the most congested settlements. As previously mentioned, definitely a relationship was established with water in the garden. The connection of the Turkish house to the nature impressed many European travelers, including Le Corbusier (Le Corbusier, 1987). Le Corbusier's special interest is reflect-

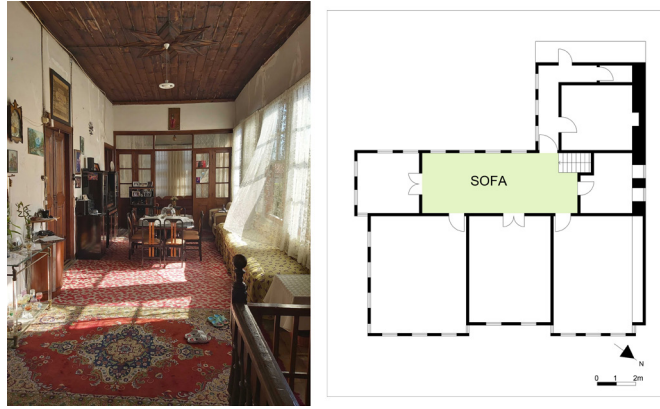


Figure 9. Sofa, Antalya (Photo: Nebioğlu, 2021, Drawing: Generated by the authors based on Urfalıoğlu, 2010).

ed by his words and through his own sketches of the mansions with gardens (Bozdoğan, 1996).

Considering all these features, it can be asserted that the settlements of the houses on the topography, their spatial setups and their open and semi-open areas are all in harmony with nature. Especially during the lockdowns, while people had to spend long time in the apartments limiting reception of sun and wind, the Turkish house's courteous position to the nature and each other is appreciated.

3.4. Introverted way of living and production

During the lockdown periods, old habits were remembered and moderately practiced. Baking become extremely popular that even the celebrities shared special recipes. As the time spent at home increases, slow foods were cooked, traditional methods like brewage or pickle were tried. The obvious increase on the home cooking frequency was proved worldwide in numerous researches (Patil & Peshave, 2021; Pfeifer et al., 2021; Ronto et al., 2021). Surprisingly, even the food waste was decreased (Rodgers et al., 2021).

In former times, nearly the whole world of women revolved around house. Kucukerman even claims that the Turkish house is designed for the women. As housewives spend the whole day at home, the dwelling provides separate areas for work, leisure and social relations (Kucukerman, 1986) Women were always productive. An important part of the production at home was cooking and prepar-

ing food materials for the family. Food is not only nourishment, but also a cultural and social phenomenon from the supply of materials to the way of consumption (Beşirli, 2010). Generally, there were specific employees responsible for the meals in the large mansions of the Ottoman viziers, chancellors and notables. It was important not only to prepare the food, but also to serve it. Even the coffee tradition was very special (Şavkay, 2000).

On the other hand, in the traditional Turkish family structure, commonly, one of the women in the house took the responsibility for cooking, while more than one family member worked together for a laborious meal. In particular, seasonal productions to be stored and ceremonial dishes to serve to guests or neighbors were prepared with the support of several people. These habits were a part of cultural and social life. For example, flatbread making (yufka) and Keşkek meal from the traditional Turkish food culture are inscribed on the Representative List of the Intangible Cultural Heritage of Humanity (UNESCO, n.d.). However, it has to be underlined that these are not the only special meals in the rich Turkish cuisine, nor the only time consuming ones. Plentiful daily traditional meals were taking time to prepare. Housewives usually receive general approval with their special meals and their cooking skills. Furthermore, as another reflection of the introverted life that needs to be mentioned is that various fruits and vegetables were grown at own garden of the traditional houses. Besides lively flowers for the owner's pleasure, greenery like lettuce, scallion, peppercress, dill, peppermint or parsley are generally found (Şavkay, 2000).

Due to the lack of technology to ease the daily work, large families and high-maintenance houses, housework was also taking a considerable amount of time. Although traditional lifestyle was quite laboring, their recreation is incontrovertible. Besides the cooking, many other traditional and domestic activities like knitting, cleaning and planting are good for the mental health (Hillside, 2019; Riley et al., 2013). Lock-downs showed the vitality of any kind

of production. Even without any urgent necessity, people wanted to go back to basics during the time spent home.

4. Hygiene and physical distance

4.1. Hygiene

As it is not always easy to access water and soap, disinfectants became an essential part of daily life after SARS-CoV-2. Although it seems quite new to carry and offer people a hand sanitizer, it has been a long tradition for Turks. Cologne, which is a traditional ethanol based scented disinfectant, is sprinkled on guests' hands, when they entered a room or a bus etc. It was a symbol of Turkish hospitality and also a common present for a visit. It is natural and very effective for the viruses with 80% alcohol. Moreover, the Turkish cologne is frequently used for its pleasant fragrance. For example, after a haircut, after a meal at the restaurant, on traditional festivals cologne is offered. In brief, the natural hand sanitizer "cologne" has already been a part of the Turkish social life before the pandemic.

At the first periods of the pandemic, another aspect to pay attention was the potential risk of the surfaces. It was told that all the surfaces, including the ones on the foods, shoes, clothes or shopping bags, has the potential to carry coronavirus (Guo et al., 2020). Therefore, each item entering the house was suggested be either disinfected or kept in a special area for several hours. Several diagrams and entryway ideas to separate the household from the risky arrival items were published worldwide in visual, social and written media (Schlage, 2020).

Although it is later claimed that the risk of carrying coronavirus into the house on the shoes is very low (Mcgrath, 2020), to avoid the transport of any kind of virus and bacteria removing shoes is a safe attitude (Parker-Pope, 2020). This situation reminds the specialized entering spaces of the Turkish house. An entrance hole is found in many houses for taking off shoes and coats etc. Main entrance door directly opens to this hole and it is the first interior space that the guests come across. It is approximately 10-25 cm lower than the ground floor level of the house, so that the dust from the outside or dirt of the shoes will not flow to the main spaces.



Figure 10. The entrance hole, which is lower than the ground floor level to avoid the dust from being blown into the rooms, Istanbul (Example 1: Photo: Yağcı Ergün, 2012, Drawing: Authors, 2022, Example 2: Photo: Yağcı Ergün, 2015, Drawing: Generated by the authors based on the measurements of Unal, N.).

This type of entrance hole is particularly encountered in the urban mansions from the late Ottoman period. Entrance holes of two authentic dissimilar mansions from different parts of Istanbul are presented in Figure 10. In the first example, main ground floor level is reached gradually, as there are three different levels on this floor. Shoes are left on the small area with the ± 0.00 level. The remaining part, which is on the $+0.12$ level, of the entrance hall is a transition and also reception area. In the second example, the entrance hall is 23 cm lower than the other spaces of the ground floor (Figure 10). The gradation from the public to the private area, seen in both examples, creates a defined space for the guests to leave their clothes, shoes and belongings connected with the outside.

4.2. Distant socializing

US Centers for Disease Control and Prevention (CDC) defined the social distancing as staying at least 2 m (6 feet or approximately 2 arm lengths) from other people, while WHO recommends keeping a distance of at

least 1 m (CDC, 2021; WHO, 2021). Although the minimum distance varies in different countries, it is quite apparent that many people all around world have difficulties to practice it, while trying to socialize.

Nearly all the dimensions on the traditional Turkish house are derived from human scale and even the original names of the measurement units represent human proportions such as *kariş* (hand span), *kulaç* (arm span), *adım* (step) etc. Thus, a winter floor can be built at a height of the level expressed by “just don’t let the hand touch the ceiling” (Bektaş, 2016). As a common attitude on the Turkish house, utility areas were not exceeding the human stature and this brought a perceptible and visible upper limit (Kucukerman, 1986).

Due to the harmonious scales to nature and human, the designs were not breaking the entire connection between the life on street and inside the house. People were not feeling isolated as they were aware of the social life outside. With the help of the oriels and cantilevers, spaces from different houses close up on upper level. It enables the house-

hold to have small talk at a distance with their neighbors while staying warm inside. Plus, normally the oriels were not closer to each other than the minimum social distance.

Moreover, nearly all of the traditional Turkish houses have gardens or backyards. Hereby, people can make connections with neighbors in the open air. On the contrary, even the windows of the new urban flats on the high-rise building cannot be opened. It is almost impossible to feel the connection to the street life or interact with a neighbor from the residential towers.

5. Conclusion

With the changing daily habits during the COVID-19 (SARS-Cov-2) pandemic, new needs have arisen.

Current urban conditions in the crowded metropolitan areas and the studio flats in the high-rise buildings were not sufficient enough to fulfil the people's requirements especially during the lockdowns. Importance of the indoor and environmental conditions became more evident with the increase in time spent home. Taking into consideration the effects of the epidemics and pandemics in history to spatial concepts and urban settlements, it is presumable that the COVID-19 pandemic will also influence several future architectural decisions.

While several spatial arrangements are being questioned globally, within this work it is aimed to provide a different perspective by presenting the solutions offered by the traditional Turkish

Table 1. Classification of spaces in the Turkish house generating architectural solutions to the reemerging needs during the pandemic.

Needs during the pandemic		Spaces generating architectural solutions
Physical conditions of the houses	Home-office concept	Selamlık
	Food storing	Garner (<i>ambar</i>) Kitchen
	Divisions and isolation	Junctions, stairs Room (<i>oda</i>)
Psychological equilibrium during the lockdowns	Open and semi-open spaces	Taşlık / Hayat Gazebo (<i>çardak</i>) Balcony
	Spatial diversity	-Interior: High ceilings, passages, sections, stairs, terraces, oriels, curved forms, extensions and articulations -Variety of units: Such as guesthouse, Turkish bath, kitchen, barn, working unit, glasshouse, boathouse, kiosk, pavilion, annex, pool, fountain etc.
	Relationship with nature	-Hall (<i>Sofa / Hayat</i>) -Room (<i>oda</i>) receiving natural light, sun, air and having a view -Garden
	Introverted way of living and production	Kitchen Garden / Backyard
Hygiene and physical distance	Hygiene	Entrance Hall
	Distant Socializing	Oriel Cantilever Garden / Backyard Using human scale

house to today's problems. Looking at the systems that have been maintained for many years in the light of new requirements will be beneficial for future planning. In this context, current issues and difficulties are discussed with references to the spatial configurations of the traditional Turkish house and old cultural habits. A single region or period of time is not focused on, but mainly the concepts are emphasized. It is obvious that the spaces are not only to fulfil physical needs, but also they affect people spiritually. Therefore, the architectural characteristics of the Turkish house are discussed in both directions. The findings are collected under three main titles; physical conditions of the houses, psychological equilibrium during the lockdowns, and hygiene and physical distance. Significance of the being in harmony with the nature and the power of spatial richness are highlighted. Key features like gardens, open and semi-open spaces, natural light and ventilation, as well as the sufficiency of the layout of the houses to the personal requirements are explained.

The study is summarized in a table, which contains the discussed concepts and their relations with underlined issues (Table 1). Names of the spaces generating architectural solutions to the reemerging needs during the pandemic are given. Specific features of these spaces may be adopted to other new designs or current dwellings. The classification shows that usually more than one space can offer solutions. This proves the multilayered characteristics and functionality of the Turkish house.

Authentic examples of traditional houses are rapidly decreasing especially in the metropolises like Istanbul (Yagci & Mazlum, 2015). Under the threat of losing several feature about this heritage, it is important to transfer the knowledge about forgotten habits and disappearing architectural spaces. Presented findings within the context of the work may be helpful in revealing the significance to ensure continuity of the concept and several spatial decisions of the Turkish Houses from past to present. In this perspective, therefore, the points where traditional housing heritage connect with the current situation are prominently disclosed. Such work

would certainly contribute to the discussion and arguments for the design of the dwellings after the pandemic by making inferences from the Ottoman period. It is anticipated that the data presented here from a different perspective, from a scarcely discussed aspect to current problems, will enrich the future spatial studies. Moreover, it is believed that the traditional type of working from home, distant socializing, stockpile or the old ways of maintaining hygiene at home will attract attention. As several basic psychological needs of human beings do not change much throughout the years, old habits might light the way of further researches and design strategies.

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