Seclusion boundaries as interface in contemporary Istanbul housing

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Abstract

Purpose – The purpose of this paper is to test and present the level of introversion/extroversion of the urban housing in Istanbul in three periods – traditional, modern and contemporary. It intends to examine changes in the boundaries between housing and urban environment in the city by evaluating housing interfaces and their components.

Design/methodology/approach – By adopting literature review, observation and comparison methods, the hypothesis that houses in Istanbul are becoming introvert in contemporary period is stated and tested. The qualifications of housing interfaces and their components are examined in the context of three different periods of housing – traditional, modern and contemporary. Common components of interfaces in all periods are identified and different housing types from all periods are compared accordingly.

Findings – The results of the comparison made within the study shows that contemporary housing units are much more introvert than previous periods in Istanbul, while housing units of modern period have the most potentiality to be extrovert. It is seen that the analysis method comparing interfacial components and its results are compatible with the hypothesis of the study.

Originality/value – Considering recent and great number of urban problems in Istanbul, the subject of introversion–extroversion in contemporary urban housing gains importance, which lacks in the literature and needs studying. Introversion of housing units affects both domestic life and their urban environment. Developing contemporary housing projects with a human ecological perspective would cure both interior and exterior of urban boundaries.

Keywords Housing, Urban environment, Istanbul, Historical development, Introvert–extrovert, Transition spaces

Paper type Case study

Introduction

The way of living has been changing continuously and more rapidly as time passes. We may perceive this change in the way we live in cities. Being a global city with a population exceeding 15m, Istanbul is one of these cities where the wild speed of change is felt. Considering that shelter is the primary need of a human being and majority of the buildings in a city have housing function, it is clear that changes in residential buildings are related to the changes in the city dynamics or factors of urban development such as policy, economy, infrastructure, etc.

When prevalent housing design approaches today in Istanbul – considering merely legal housing – are analyzed, it may be seen that recently built residential buildings are pretty much introvert. They have very limited potentiality to relate with the outer elements. This sets boundaries between housing and the urban environment. In a sense, it causes a seclusion of the house. There are several reasons why contemporary residential buildings are secluded from their environment, including social, cultural, economic, political factors.

This paper will examine the mentioned state of boundaries between housing and its urban environment in a historical aspect. It will seek ways to define these boundaries as the intersection between interior and exterior – so-called interfaces of dwellings, their components and specifications. Regarding varying comprehensions of housing in the recent history, the three different periods – which can be defined as traditional, modern and contemporary – that are characterized by different housing types will be explained. This paper claims that contemporary urban housing in Istanbul has been more and more introvert, particularly when compared with the housing units that belong to the older periods. It aims to reveal the magnitude of this introversion, to assess the potentiality of

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housing for extroversion regarding the mentioned three periods. Boundaries which cause introversion in housing are measured by analyzing interfaces in means of public–semi-private/public–private space relationships that these residential buildings have.

Methodology
The method of this study is adapted from correlational research method. Literature review, observation and comparison are adopted to this research within the scope of the study.

The qualifications of housing interfaces and their components are examined in the context of three different periods of housing (traditional, modern and contemporary) in Istanbul. First, these three periods are compared through section drawings in order to reveal their potentiality for extroversion. Second, interfacial components which act as communication medium on the interface between inside and outside are identified and analyzed. These components are categorized in two groups according to the type of transition: the first group consists of components bridging between semi-private/public and public (balcony, terrace, porch, intrusion), and the second one bridging between private and public (extrusion – bay window). Then, a classification is made considering basically two types of units: single family units (detached houses/villas) and multiple family units (apartment buildings). And, lastly, an examination is made through comparison between selected examples from each era and housing unit type. Although they are selected randomly, the selection aims variety.

Recent history of housing within changing urban context in Istanbul
Since there have been such rapid and fundamental changes in the previous centuries both worldwide and locally, and they changed the way buildings relate with their environment, these three periods (traditional, modern, contemporary) are selected to make a comparison.

Until the modern period was sighted on horizon, Turkish houses have been the generic type of housing throughout Anatolia for centuries. A Turkish house usually has a relatively secluded ground/basement floor built as masonry and has one or two lighter, permeant upper floors built as timber frame structure. With the effects of Islamization in the region, especially considering women, these typical houses were shaped in order to isolate the house substantially from the street. In this way, privacy boundaries were established. Women were supposed to work on the ground floor (where main service spaces were located) and relatedly at the courtyard (if the house is located in a non-urban context and has a courtyard), and thus needed to be protected from strangers’ sight, while men were on the upper floor, which is being subject to gender studies as well. This separation of genders and its reflection on spatial organization of the house mostly caused ground floor to be designed as introvert, while upper floors were more extrovert.

With the effects of westernization, urban patterns and architecture in the city of Istanbul at that time had been quite divergent throughout the nineteenth and twentieth centuries. Yücel (1996) categorized Istanbul housing types in four headings: traditional wooden Turkish houses, row houses, apartments and kiosk/summer houses. The inception of such a period of variety in the built environment was Tanzimat era, beginning with 1839. In the middle of the century, many regulations concerning buildings were established. With the building regulations between the years 1848 and 1882, construction of traditional wooden houses was prohibited due to recurring fires in the city that destroy a large amount of buildings, and new masonry houses were built which are durable to fire (Çelik, 1996). As subject to this study, both traditional wooden houses and masonry houses are handled, since they both embody the specifications of a traditional Turkish house. In the aftermath of socio-economic changes, first apartment buildings started to be built in Galata-Pera region of the city, where mostly Levantine merchants were running their business. As the population of the community dealing with commerce grew, the region became insufficient
and this increased need for more housing in the existing lands, which resulted with the emergence of apartment buildings (Onçel, 2010). Adopted from western countries, this new type of building spread to other parts of the city.

At the beginning of the twentieth century, Ottomans were still the ruling power and modernist movement was newly emerging in form of architectural intellection, after the changes of urban settlements in scale of regulations at the Tanzimat era. With the Republican era, 1923 onwards, western modernist perception of housing was being imported. After 1930s, many examples of modern villas and apartment buildings were seen throughout the country. Adopted by western countries and having similar principles with garden cities, cooperatives and lodgements emerged with this period as variations of mass housing (Bilgin, 1996). Being built with personal savings of owners, rental houses (Tr. *kira evleri*) were apartments where the owners lived in one flat and rented other flats of the building (Görgülü and Kaymaz Koca, 2007).

By examining former configurations in the city, it may be seen that buildings, especially residential buildings, were interrelated to each other. They were emerged with residents’ efforts or designed by architects as a whole, or somehow integrated to the surrounding. The period starting from 1950s indicated a new era for Istanbul, with the beginning of industrialization, which caused immigration of many people from Anatolia for job opportunities. However, there were no housing supplies for these people in the city. Therefore, they started to build for their own on the lands that belonged to the national government. Declared in 1965, the Flat Ownership Law caused people to buy an independent flat within an apartment block, which means that the traditional relationship of public–semi-public–private between house and urban environment has been dissolved (Özgen, 2002). Flat ownership created the system of build and sell in the existing urban fabric, in which people demolish their low-rise houses and contractors build apartments on the same plot.

In 1980s, liberal policies started to be dominant. With the effects of globalization, urban patterns started to change dramatically. Since urban land became more valuable day by day and the private sector got involved in the production of housing more than before, there has been an enormous amount of housing production and a growth in scale of constructed buildings. Government and private sector started to construct for the middle- and high-income group.

After 2000s, there has been a wide range of variety in housing supply in the city, which can be named as single family units or low-rise apartment buildings located on the transportation axis connected with the city center, and these alternative housing environments cause people to be introvert (Görgülü, 2003). There are also many high rise apartment blocks (either singularly or within a gated community) being built. Containing several numbers of high rise buildings gathered in a plot surrounded with walls separating them from the urban environment, gated communities represent rather an introvert housing profile.

When we consider all these past processes of housing, contemporary housing seems to be more introvert. Seclusion of the dwellings from their environment is based on some global facts and their reflection on the city. One of the main reasons is globalization, interrelated to capitalism, leading to the desire of economic profit from construction industry. With expectation for extra income, housing production rapidly increased by the investments of both private capital and government funds. The population/land ratio of the city entails a denser urban fabric or enables growth toward the outskirts of the city, which causes an environmental transformation. Technology, on the other hand, triggers individualization. Social facts such as separation of families for various reasons like divorce or education, nuclear families having less children than traditional ones because of economic limitations, preference on behalf of employment, etc., show some effects of individualization. As another effect of globalization along with the individualization process, people become more mobilized and tend to live in smaller dwellings.
**Interior–exterior relations**

*Interior–exterior relations in the international scale*

This study examines three periods of housing history in Istanbul – traditional, modern and contemporary. In all the mentioned time periods, these various understandings of architecture spread and prevailed internationally, and similarly corresponding to their time. In order to point the context up, this part of the paper regards interior–exterior relationships of housing environments in the mentioned periods within international scale. Nevertheless, the term “traditional architecture” indicates locality; thus, it will not be meaningful to analyze it in an international scale within the scope of this study.

With modernization, a new international style was embraced along with new technologies, emphasizing on perspectives such as functionalism, rationalism and simplicity. Leaving all the old styles and their ornamentations behind, architects started to use new production techniques to their limits. These techniques helped the structure to be flexible, which brought free design of façades and consequently wider windows opening up to the outer world. Architects in the modern period were eager to connect their buildings with the nature instead of the urban phenomenon (Jaschke, 2009). Modernist urbanization ideals such as in Garden City or Ville Radieuse projects were as well cut out from the existing urban patterns. Nevertheless, basic principles of the modern period were spread and adopted, and started to reflect itself on all sorts of building types and scales in urban areas including urban centers.

Enhancing the relations between buildings and public spaces became a common attitude for architects as a result of the rise of critics on modernism. According to many theorists, with the disseminated postmodern ideas and architectural criticism, a contemporary dwelling is expected to be integrated with its environment. However, toward the end of the twentieth century, the factors which were mentioned in the previous part prohibited this integration of dwellings.

**Boundaries and transitions**

Throughout its history, the act of building has been inhering the notion of shelter. Boundaries of the shelter that separate inside and outside and define spaces with various qualities and properties have a significant and decisive role in shaping our interior and exterior world. In addition to boundaries, transitions (or thresholds) as well determine the relationship between these domains by linking them (Lawrence, 1984). Introversión or extroversión of a building is determined with the degree of openness to the outside world. In order to analyze buildings in terms of introvert or extrovert properties, firstly the state of interior–exterior relationships should be examined. Answers to the question of how and through which medium this interaction between these two domains is realized will be searched in this part.

The mentioned interaction process or the transition between interior and exterior may be handled in several aspects. There are two main groups of factors which create and determine the characteristics of boundaries and transitions: physical (tangible) and intangible.

Physical factors depend essentially on specifications of spatial layout and building facade, which are represented with plans and sections respectively. Entrances and spaces adjacent to each other in a dwelling unit are expected to allow transitions between domestic spaces which belong to different degrees of intimacy, in order to enable subtle social interaction (Alexander *et al.*, 1977). As another factor, the facade of a building has a physical existence, creating both physical and symbolic connection between inside and outside. The formations of facades in these terms will be scrutinized in this study.

Another aspect regarding the mentioned transition may be explained under the title of “intangible aspect,” correlated to a phenomenological approach. This aspect mainly comprises senses, perceptions, psychological and cultural factors. Considering the relationship between
the life going on in a dwelling and its urban environment, visual connection is one of the most primary types of linkage. Both residents and people in public space perceive each other or the environment visually at first. Visual perception is significant within domestic boundaries as well. As Lawrence stated, accessibility and visibility are controlling means generated by architectural elements (Lawrence, 1984). Extent of these means also form the relationships between public and private spaces in the dwelling. Even though visual connection has an outstanding role within this context, it may preclude our other senses. Pallasmaa (2011) mentions several studies which prove even more types of senses than our common five senses have influence in directing us in our environment. Pursuing solely visual connections is thus insufficient. Many senses other than seeing define qualitative and quantitative aspects of the relations between interior and exterior of an urban dwelling. Auditory sense, sense of smell and even tactual sense are factors which test whether this relationship is strong enough. For instance, a person while sitting in a balcony of their home could hear a car passing by or a bird singing; smell the meal that their neighbor cooks, a lime tree or maybe a fire; and feel the rain, snow or wind on their skin. From a phenomenological perspective, these experiences make the meaning of dwelling much more than a closed box.

Even beyond these mentioned senses of ours, we can consider interior–exterior relations for dwellings in terms of psychological processes. Team 10 addressed the dwelling–psychology relation, studying it in terms of meaning, as for Aldo van Eyck in particular, who studied it from an existentialist perspective (Jaschke, 2009). They all have been thinking over the boundaries and transitions between interior and exterior spaces. Drawing an analogy via the in-between realm where land meets ocean, van Eyck stated that “architecture must extend ‘the narrow borderline’” implying the interface of interior and exterior (Jencks and Kropf, 2006). In addition to that, he claimed: “The dwelling and its extension into the exterior, the city and its extension into the interior, that’s what we have to achieve!” (Jaschke, 2009).

Beside the perceptions and experiences obtained from the interior, possible perspectives from the exterior should also be considered. Seeing different people and lives going on from street level brings richness to urban life. On the contrary, seeing façades without people and movement will be perceived as solid city walls.

Interface as the determinant: extrovert or introvert?
In its traditional meaning, home is the place where one is on their own, where they feel protected and comfortable, where they feel as their personal space. Therefore, houses are expected to be private spaces. On the other hand, houses are where we spend most of our time, even though today’s speed of life alters the traditional meaning. Thus, they need to contain some elements/spaces leading its inhabitants to interact or relate with the outside world, especially with the street level – for instance, to socialize with a neighbor, to feel the weather outside or to take a look at the street to see what is going on outside. It is important that the levels of privacy and publicity provided by a house are balanced appropriately, since excessive privacy would cause an unhealthy relation with the outer world or excessive publicity would be contradictory in terms of the notion of dwelling.

Such an interaction between interior and exterior that merges the two domains occurs at the intersection of the building and its environment. This intersection in the scope of this study is called interface – which can also roughly be expressed as building façade in architectural terms or as surface (Figure 1). Interface is considered as the surface of a building that defines the intersection areas of interior and exterior, both on horizontal and vertical planes it contains. Factors such as dimensions of this surface, the way it is shaped, the spaces it creates, its physical (material) specifications, etc., and substantially determines the relationship between spaces that this surface separates. A high level of permeability of a façade/surface allows intense relations between interior and exterior of a dwelling. This sort
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of permeability may be achieved with specific movements and puncture on the façade, some of which may be interrelated to relevant spaces.

Whether a residential building is introvert or extrovert, it is fundamentally determined with the culture/diversity in cultures of the inhabitants, geography (where they live in), and the era that they reside (when the building is designed/constructed and the time period when the inhabitants live in). For instance, Iranian traditional housing has two major types of socio-spatial organization that are called introvert and extrovert (Sadoughianzadeh, 2013). Containing both introvert and extrovert characteristics, traditional Turkish houses have a similar cultural reflex, which stems from the Islamic society. When we consider cumulative settlements in which buildings are built with an organization that evokes a hill such as the city of Mardin in Turkey, we can hardly think of introvert dwellings, since they have such an interlocked relationship. It is also appropriate to mention Dutch houses in this context, which are substantially introvert back in the seventeenth century as a conclusion of the psychological, social and physical threats of the exterior (Hill, 2006).

In this paper, dwellings’ state of introversion/extroversion will be detected via examining their interfaces. Described previously, historical processes of housing in Istanbul have reflected on the formation of housing units. The way that these buildings are formed reflects back on the city, forming urban life. Especially when considering today’s comprehension for housing and the urban environment it creates, this boomerang effect becomes apparent. Contemporary introvert houses are either built once and collectively (gated communities, urban transformation projects) or come together in time and form a new urban texture eventually (in consequence of singular building renewals). This new physical environment in the city comprising of many introvert buildings results with passive public spaces, and causes seclusion of housing units from public urban areas.

It is stated that today’s housing being physically more and more introvert is seen as a problem and handled as the subject of this study. On the other hand, for a housing unit to be extrovert, there are some physical objects needed to be related to at the outside, which is probably an undesired relationship for contemporary housing due to disintegration of urban housing areas, individualization, crowded population of the city, etc. Nevertheless, this kind of a relationship is needed for a recovery of contemporary housing and in this way urban life in general.

In order to analyze to what extent a building is extrovert or introvert, several factors can be observed, which are mainly categorized as:

- context (urban environment);
- scale;
- spatial organization of the building; and
- physical specifications of the building (spaces, building elements, material qualifications, etc.).

Figure 1.
Intersection between housing and urban environment – the interface
Context
In order to consider any relations that include a building, one needs to consider its environment. Interactions of a building with other buildings (private spaces) or with public/semi-public spaces depend on the context. A housing unit oriented to a backyard shared by several other housing units would lead to private–private and private–semi-public relations, whereas another one looking over an avenue or a park would enable private–public relationship for inhabitants. Therefore, the exact locations of these buildings or areas (public, semi-public, semi-private or private spaces), their distances, heights, etc., constitute their relationship with the assumed housing unit.

Scale
The scale of an urban texture is another aspect which determines the extent of introversion or extroversion of a housing unit. Scales of both the housing units and public spaces come into question. For instance, two urban dwellings located in the city center would have a relative connection depending on the width of the street in between. On the other hand, if the in-between element was a park instead of a street, the relationship of the two houses would be completely different. Building heights is another issue of scale. Most of the upper floors of a high rise housing block have no relation with exterior public spaces.

Spatial organization of the building
Spatial organization of housing units is counted as one of the determinative factors for the state of introversion or extroversion of houses. The layout of a house defines functions of the spaces in it. Considering that users tend to reorganize and transform where they live in, this state of defining is limited with boundaries and potentialities for the usage of these spaces. Either used as predefined or transformed, spatial organization affects the formation of the interface between building and its environment, in which the spaces behind the façades are covered with that interface and become an agent of transition to the exterior.

Physical specifications of the building
This paper will focus on physical specifications of buildings, attempting to examine the potentials of residential buildings in a chronological order. Among these specifications, building elements and spaces are selected for this examination. They are defined as “interface” of a building, which stands for the intersection of that residential building and urban environment it belongs to. This interface, described as “surface” in the previous section of the paper, may roughly be handled as façade, which is shaped by building elements and related spaces, namely, its physical specifications. Articulation of building façade plays an important and decisive role in this context.

Interfacial components – creating transition areas between housing and urban environment
Building elements or spaces, which are named as “interfacial components” in the study, define the characteristics of residential buildings’ interfaces. These spaces can be (building elements can relate with) open, semi-open or closed, which have semi-private/public or private features at the same time. Here both the terms semi-private and semi-public are used, since the components may have both of the characteristics. Most of the components are semi-private because of being a part of the private property. The existence and relationship of these interfacial components determine how extrovert or introvert a building is.

In this chapter, the three different comprehensions of housing corresponding to different periods reflecting to the city in sense of introversion–extroversion will be evaluated.
Components of traditional houses

When the potential but not exactly the actual historical usage is considered, it can be claimed that traditional Turkish houses from the Ottoman period were pretty much extrovert, although these houses were shaped according to the Islamic principles, which requires closeness against the outside world (Kuban, 1968). According to Yürekli (2018), even the actual formation of these houses allow a strong connection with the exterior and they had evolved to a more extrovert state in time – developing from top to down and from inside to outside. There are several spaces or building elements (interfacial components) in traditional Turkish houses which create this extroversion in the interface: one of them is called external sofa, which is mainly an outdoor hall that is used both as a common space and a circulation area for the household. Balcony elements were frequently used in traditional housing. “Cumba” (bay window) is an element extending an indoor space toward the street, which creates a projection from the building mass and creates more potential to relate the housing with its environment (Figure 2). A similar projection is created by a building element called “kimgeldi window,” which allows the household to take a look toward the door to see who has come. Intrusions indicating entrances of the buildings – mostly with some stairs – also create potentials in means of semi-public space. Even courtyard of the house may be counted as one of these components, since it provides a semi-private space.

Components of modern houses

Modern period can be considered as the peak of opening to the exterior in means of housing, as well as other types of buildings. If we take a look at the subject in an international scale, one of the striking examples may be Farnsworth House. As Hill tells the story of the house in a historical, international and phenomenological perspective, he states that “modern architecture seems to undermine the idea of the introverted and tangible home developed between the seventieth and nineteenth centuries” (Hill, 2006). As an extension of this new perception, private has been made public in the modern era (Colomina, 1996). Even though an openness at this degree has not been the case in the context of Istanbul, there has been a change of perspective which leaded housing to have a closer relationship with its environment, with long balconies covering most of the façades of residential buildings, planters integrated with balconies or directly to the façade which leads users to relate with nature and by extension to the outside world, terraces on top of apartments of early period that are mostly attributed to laundry function or common usage. Beside these elements, we also see porches in modern villas (Figure 3).

In the late modern period, when urban land became more and more precious, people started to use build and sell system. They tried to gain square meters as much as they can. If they live in an old building, they turned balconies into closed spaces and used them as storage to have more closed space.
Components of contemporary houses

Considering all the technological opportunities we possess today, along with economic, social, cultural, political changes and globalization process, caused individualization. People either choose (leaving home for studying, living as bachelor, getting divorced, etc.) or have to (older people who are dismissed by their children, etc.) live on their own. Some people who have an economical might want to live in luxury. Some work intensively, still cannot afford much and have to live in a small apartment. Some want to live in the suburb. These new ways of life, which were not common before in the history of the country, change where people live. Responding to the requirements of these new ways of life, contemporary housing is being supplied. However, these buildings mostly offer spaces having inadequate relationships with the urban life (Figure 4).

French balcony is one of the most popular design elements of this period. With the purpose of economic gain, contractors tend have more closed spaces instead of losing some square meters with balconies. Legislative limitations, profit, cultural change within the society (turning balconies into closed spaces for storage use, popularization of French balcony) or privacy issues regarding the dense urban environment of Istanbul have been leading residents to avoid using balconies or terraces.

Comparison

In order to compare the typical interfaces from the mentioned three periods and housing types, housing examples from each period and each type of housing (both villas and apartments) are selected. Since there is a variety in scales, construction techniques, etc., of housing within each

![Figure 3. Interface of a modern housing: terrace, balcony, porch](image)

Source: Author (2018)

![Figure 4. Interface of a contemporary housing: balcony, French balcony](image)

Source: Author (2018)
period, and all of the characteristics of a period are not represented with a single housing type or example, examples of different housing types from each period were selected for comparison. Each variation is represented with three random examples. No specific neighborhood is selected for the case study. On the contrary, variety in the location of examples was aimed. The selection is made so that the examples show the case from different neighborhoods or socio-cultural groups. Within the scope of this study, chosen examples of residential buildings will be evaluated individually, isolated from context data.

The chosen examples will be examined in terms of their interfacial components that serve to the extroversion of the house. There are five main components which seem to be common to all periods or are present at least in two periods:

1. balcony;
2. terrace;
3. porch;
4. partial intrusion on the façade – especially intruded entrance spaces of buildings, mainly with stairs; and
5. partial extrusion on the façade – bay window or any type of formation of the façade creating the sense and function of a bay window.

The first four components actually create semi-private or semi-public spaces due to the interfacial characteristics of the house. The fifth, on the other hand, refers to an internal closed space and thus private.

A table is created accordingly and examples from each period are listed (Table I). Each example is analyzed in terms of public–semi-public–semi-private–private areas. These interfacial components are listed in the table.

When choosing the projects, variety is taken into consideration. For the “traditional” section, three main housing types of that period are selected which are traditional wooden houses, row houses and waterfront residences as a subtype of kiosks. In “modern” section, examples from cooperative housing and individual villa types are chosen for “villa.” For “apartment,” Tüten Apartment, one of the most famous modern apartments in the city with its modernist characteristics (1906), Birkan Apartments (1955), which may represent the permeability of modern period housing, and Hukukçular Sitesi (1961), which is a “Unite D’Habitation” type of residential building are chosen. For the “contemporary” section, various examples are randomly selected (Plate 1).

As a result of the analysis, it is seen that traditional houses were mostly having balconies and bay windows. In the modern period, the variety and application of components start to rise. Balconies, terraces or porches are frequently used along with intrusions in the building masses. The most extrovert properties are seen in this period. And, in contrast with this period, today’s contemporary houses mostly tend to lack this variety and application of interfacial components, which was the point that was highlighted at the beginning of this study.

**Discussion**

In this paper, interfaces of the buildings are examined merely in the scale of building elements and spaces that they create. Context has been exempted in the analysis. Nevertheless, context is a crucial factor which affects introversion/extroversion of housing units, especially a context like the city of Istanbul which alters with a wide range of new construction projects every other day. Scale has also been exempted which is actually quite related to the topic when high rise residential buildings come into question. For instance, ground level and thirteenth floor cannot be treated as they are same. The question of “how much extrovert could skyscrapers be?” may be another extension of this examination. While examining
interfacial components, plan schemes could also have been included in the method along with sections and façade examination, which would give opportunities to seek intro-/extroversion related to spatial organization and usage of buildings.

Besides the analysis of comparison made in the study, considering contemporary housing being built for high income group recently, there is an interesting contradiction between the attitude of the building toward its environment and the flourish of advertisement of these buildings. Although these buildings tend to be secluded from the outer world, construction companies are marketing them with renders, photos, etc., which are representing private spaces of the house and supposed to be hidden from the public.

Conclusion
In the study, interfacial components of housing from three different periods are compared. Three examples are selected from each period. It is clear that a comparison of few examples alone is not sufficient and do not reflect the general situation of housing–urban interfaces.
Nevertheless, it helps for an overall view to the issue and verifies the hypothesis of the study. As the outcome of the study, contemporary urban housing units are more introvert than older periods and this fact affects both domestic and urban life. Developing contemporary housing projects with a human ecological perspective would cure both interior and exterior of urban boundaries, making them porous and enabled for various transitions between dwellings and their environment.

Sources: Traditional houses: (1) URL-1; (2) URL-2; (3) URL-3. Modern villas: (1) Aru and Gorbon (1952); (2) Femir et al., (1952); (3) Gorbon (1937). Modern apartments: (1) Author (2018); (2) Baysal and Birsel (1959); (3) Baysal and Birsel (1970). Contemporary villas: (1) URL-4; (2) URL-5; (3) URL-6. Contemporary apartments: (1) URL-7; (2) URL-8; (3) URL-9

Plate 1. Photographs of housing examples corresponding to Table I.
To conclude, it is obvious that a broader analysis including other aspects that were previously mentioned, and a larger amount of examples is necessary, yet the framework of this study is set in this manner. With a further study, the actual usage of these interface elements may be examined (e.g. by selecting few residential buildings and having interview with its inhabitants) and intro-/extrovert qualifications of them may be questioned, which would contribute to this study. That way, the findings of this study would also be tested.

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