



RESEARCH ARTICLE

THE CHANGING IMAGE OF HIGH-RISE HOUSING IN ISTANBUL

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ABSTRACT

The research deals with five different urban centres in Istanbul where high-rise housing has been increasing dramatically since the 2000s. Therefore, the research regards the multi-centred urban residential model being created by high-rise housing structures in the urban tissue. In the framework of the research hypothesis, it is aimed to prove that the character of vertical dense structuring in Istanbul is based on differentiation, form and image making in the expressive quality. The site analysis is realised with the help of the Sign model of Charles Sanders Peirce. The high-rise buildings have been analysed in the context of icon-index-symbol sign parameters, questioning the search for differentiation, form and image.

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INTRODUCTION

With the rise of globalisation and the World City concept all over the globe, developing world countries have produced similar policies and projects such as high-rises, mega projects, iconic structures and huge transportation investments as seen in Istanbul. According to Friedmann (1995), the world city is the place where the international capital concentrates and accumulates. Regional, national and international economies are articulated in these cities. Sassen (2012) defined the cities of the world not only as the centres of control and management but also as the cities where the production of trade and service sector and financial innovations took place and gave a new dimension to the concept of world city. The world city rhetoric explains the emergence of global cities with the emergence of a new global economy. Since the mid-1980s, the process of economic liberalisation and integration with the world markets have brought also strong architectural manifestos and physical realities. These manifestos, emerging as a global phenomenon from Sao Paulo to Shanghai, depict new scales, new typologies, new diffusion policies of cities (Bozdoğan & Akcan, 2012). The ongoing spatial transformation process in Istanbul is developing as dependent on economic policies as it is in many metropolitan areas of the world. Large-scale urban projects have begun to be produced rapidly in order to attract international capital within the competitive environment

determined by the free market economy on a global scale (Görgülü, 2007). Considering the boom of high-rise housing construction in Istanbul on the theory of a global city, these structures can be regarded as a few spatial results in the process of reaching the hierarchical structure created by the global economy on the macro scale (Baba, 2012). As a result of the global capital becoming widespread since 2000, international capital groups and local governments that support these groups have entered a competition to make edifices and ambitious structures (Douglass, 2000). With the rise of mega projects, high office and residence towers, mixed-use complexes and foreign investments developed in this context, Istanbul has become prominent as a world city in the global economy.

In the process of globalisation, due to the lack of centre in the metropolises, secondary centres, new structures outside the city, new settlements areas called neo-city have appeared in the periphery of a metropolis (Marcuse, 2008). As the city continues to grow towards the border settlements and rural areas, a multi-centred structure emerges in the form of the city. The evolutionary process leading to the creation of a multi-centred city from the single-centred city seen in recent years in Istanbul overlaps with the theory of Polycentrism. While high-rise buildings are concentrated only on the Büyükdere-Maslak axis in Istanbul, where the business centres are located, it is seen that different urban foci such as Maltepe-Kartal, Kozyatağı-Ataşehir and Başakşehir-Beylikdüzü have been created with the increasing tendency especially in the high-rise

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housing realm. This can be seen as a micro-scale reflection of the multi-global network, as the shift of a global economy based UK and United States to urban peripheries such as China and India. Therefore, the research aims to explore the multi-centred urban residential model being created by high-rise housing structures in the urban tissue. In this context, five different urban foci and residential development areas where high-rise housing is concentrated have been determined in the scope of the research. In addition, one project from each residential development area has been selected and examined in the framework of the site analysis. The research aims to prove that the character of vertical dense structuring in Istanbul is based on form-image relations considering the increase of high-rise buildings in residential areas in recent years.

METHODS

High-rise housing structures are studied in two dimensions: The first is related to the effect of high-rise buildings on the urban tissue and silhouette in the metropolitan city of Istanbul, and the other is related to architectural design and meaning relations. As part of urban settlement decisions, evaluating the distant and close environment interactions and the transformations on urban silhouette were considered. In the context of architectural design-semantic relations, the use of the Semantic Method and Sign model constitutes the main methodology of the study. Within the frame of the Sign model, developed by Charles Sanders Peirce (1982), the structures are detailed according to Icon (Form), Index (Function) and Symbol (Form-Function Relationship) parameters in the scope of basic analysis questions. The high-rise projects have been analysed according to the Sign model of Charles Sanders Peirce (1982), questioning the search for differentiation, form and image on the icon-index-symbol parameters of the Sign model. Also, exclusive interviews with the designers of these projects have been planned questioning the integration of the projects to urban environment in the framework of design decisions.

RESULTS

The method of convenience sampling, developed by Mugo Fridah (2002), was used while examining high-rise housing structures depending on the boundaries and scope of the field work.

prepared as scale and content information, identifying architectural projects in terms of location, date of construction, land area, total construction area, height and number of floors (Table 1).

Şişli-Maslak Residential Development Area

Until the end of the 1980s, Şişli-Maslak area was mainly used for small industry. Especially since the 1990s, it has been transformed into a central business area as a result of giving the highest floor area ratio in Istanbul (Dökmeci & Terzi, 2008). By its advantages of being located between the Bosphorus bridges and the surrounding road connections, having large parcels of old industrial facilities, and having the highest floor area ratio of Istanbul, along with being close to other sub-centres such as Beşiktaş, Mecidiyeköy and Zincirlikuyu, this area where high-rise office buildings have been developed is preferred by multinational companies and holdings. In addition, the Şişli-Maslak region has shown a building tendency to the needs of high-quality residential structures according to the changing user type. Sapphire Tower is a mixed-use high-rise project developed in this direction.

Sapphire Tower (2006-2011)

Designed by Tabanlıoğlu Architecture, Sapphire Tower displays expressionist lines in terms of icon-index-symbol relations. Apart from being a project that brings recognisability around the building, it is a reference point with its height, a viewpoint in Istanbul's cityscape. According to Icon (form) parameter, Sapphire displays defined geometries such as a rectangular prism in the form of a tower. The *façade* is formed with two dynamic external skins independent of each other around a static mass, so the tower is not a single block; three different layers are visible. The *façade* reflects dynamic lines apart from a rational and static line. Also, the tower is designed as an iconic structure exhibiting itself in the urban tissue beyond dominating a wide view of Istanbul considering its *architectural expression*. Index (function) analyses the structure with building type, function and secondary functions loaded into the structure. Sapphire is a mixed-use project that houses a shopping centre and has residential functions. Social and sports areas such as lounge, swimming pool, spa, restaurants serving the residential function can also be considered as secondary functions.

Table 1. The content of high-rise projects in residential development areas of Istanbul

	Şişli-Maslak	Başakşehir-Beylikdüzü	Maltepe-Kartal	Kozyatağı-Ataşehir	Historical Peninsula
Name of Project	Sapphire Tower	Loca Istanbul	Burgu Towers	Varyap Meridian	Onaltıdokuz Istanbul
Year Built	2006-2011	2008-2010	2010-2011	2009-2010	2010-2012
Architecture	Tabanlıoğlu	M.Hepgüler	B.Sağdıç	RMJM	Alpar Arch.
Location	4. Levent	Bahçeşehir	Maltepe	Ataşehir	Zeytinburnu
Function	Mixed-use	Mixed-use	Residential	Mixed-use	Residential
N. of Floors	64	28	22	60-24-45-41	27-32-36
Height	261 m	90 m	65m	192 m	137 m
Land Area	11,500 m ²	14,000 m ²	8,000 m ²	110,000 m ²	27,791 m ²
Construction A.	165,139 m ²	59,000 m ²	23,000 m ²	410,000 m ²	154,203 m ²

In this context, five different urban foci were determined in Istanbul based on the vertical dense structuring in the housing, and several projects were selected according to the change and transformation criteria in these fields. For this article one project in each area was examined. To describe projects for each residential development areas in Istanbul, a schedule was

Symbol analyses the structure with several parameters such as form-image, order, rhythm and silhouette examining form-function relations. Sapphire reflects finished form image and dynamic lines, as part of *form-image* relations. The most important building elements that give dynamic lines to the form are the external skin and glass surfaces. The building's

form tapers slightly upward, which removes the design from the monotony and gives it a dynamic line. The parameter of *order* analyses the structure in respect to use of symmetry, asymmetry, axes and façade-mass relations. In this respect, Sapphire Tower displays axial order in the site plan while having asymmetrical order in building design with differentiation size of glass surfaces extending to front and back façades in the external skin. Considering *façade-mass* relations, Sapphire Tower can be read as three different parts: The entrance covers the spaces such as cafes, restaurants and shops under the glass roof, extending as a part of the external skin. This glass roof refers the human scale in the urban tissue and gives the structure an inviting entrance qualification. The main body consists of the residential units and the common areas, which are provided by evacuation of floors in some places. While the building is creating social life possibilities and places to breathe in on these mezzanine floors, it helps to break the vertical effect of the structure as seen in the section drawing. In addition to that, the *rhythm* of mass and façade reflects a dynamic and variable rhythm. Istanbul Sapphire is the city's highest building with a height of 64 floors and 261 metres. In terms of *silhouette*, the building is located on the Şişli-Maslak axis of Istanbul, within the new central business area and emerges as an important structure that changes the silhouette and the identity of the city (Figure 1).



Figure 1. The image showing the location of Sapphire Tower in the urban tissue

Başakşehir-Beylikdüzü Residential Development Area

The Başakşehir-Beylikdüzü area is one of the sub-centres in Istanbul with newly developing projects, such as high-rise offices and residential buildings as well as gated communities (DPT, 2006). Bağcılar, Güneşli, Basın-Ekspres line, Basakşehir and Beylikdüzü are the main points in this sub-centre where vertical residential development is seen. Loca Istanbul is a mixed-use high-rise project in the area, analysed in the scope of research.

Loca Istanbul (2008-2010)

Designed by Metin Hepgüler, Loca Istanbul displays formalist lines of the late modern period in terms of icon-index-symbol relations. The high-rise blocks of the project are not integrated within the urban fabric although it is designed considering the principles of organic architecture by the designer. According to Icon (form) parameter, Loca Istanbul displays undefined and curvilinear *geometries* without perpendicular angles in the form of building. There are two residence blocks at different

heights and a three-storey bridge connecting these blocks with each other on the terraces where the social areas, stores and home offices are rising in line with the existing topography on the façade. It appears that a movement has been created on the *façade* with a differentiation of mass expression due to functions and circulation areas. The designer maintains that the architectural design of the project is based on plastic and eco-organic principles, and that each functional unit is designed according to these principles. In terms of index (function), The project is a mixed-use building in which residential, home-office and shops are located. There are also secondary functions such as social areas, the commercial centre and the parking area that serve the main functions of the building. According to Symbol, Loca Istanbul reflects dynamic lines connected with residential units that open to the topography and to the view in three directions rising on the land with elevation differences as part of the *form-image* relations. According to the *order* parameter, the settlement in the site plan shows that the structure uses defined axes but has an asymmetrical order which gives the design dynamic lines. In terms of *façade-mass* relations, the open and closed areas of the terraces in harmony with the land topography are separated into shopping areas and social facilities at the entrance. Two residence towers with different orders and heights and a three-storey bridge connecting these towers appear as the basic volumes of the main body. The roof is emphasised by viewing platforms of both towers, which resemble antennas of the structure, and these units give a symbolic character to the structure. The reflection of design language, which is developed in different functional volumes in architectural design, has become a dynamic and variable *rhythm*. Loca Istanbul is characterised by a differentiated structure with its height and proportion in the urban area. In terms of *silhouette*, the structure is located in Bahçeşehir, one of the sub-centres of Istanbul where the gated communities dominate (Figure 2).



Figure 2. Loca Istanbul, the image of the front façade from Avni Akyol street

Maltepe-Kartal Residential Development Area

On the Anatolian side of Istanbul, a new centre is needed for trade, tourism, housing, culture, finance, management and recreation areas and uses, which revitalises the central business area and provides both workforce and transport links between the two sides of the city. In this context, Maltepe-Kartal and Kozyatağı-Ataşehir are defined as primary centres. It is foreseen that the centre of Maltepe-Kartal will develop as a centre with a high level of the service sector due to the reasons

such as the proximity to SabihaGökçen Airport, the industrial areas in the transformation period, and the existence of transport projects supporting this region(DPT, 2013). In this context, Burgu Towers is analysed as a residential high-rise project that contributes to the development of this new centre.

Burgu Towers (2010-2011)

Designed by BarbarosSağdıç, Burgu Towers displays formalist lines of the expressionist period in terms of icon-index-symbol relations. The residential towers have sculptural architectural lines, thought to be something that breaks the form-function relation in architecture. And it has an expressionist attitude as a symbolic structure that brings recognition around. According to Icon (form) parameter, Burgu Towers displays undefined, combined *geometries* in form of the towers. The iconic effect created by the twist form gives the *façade* a sculptural, dynamic character. The *architectural expression* of Burgu Towers draws attention with its unique and extraordinary architectural discourse. There are also other discourses emphasising a new silhouette for Istanbul, a new dimension of life and a new identity perspective for the surrounding environment. In terms of Index (function),Burgu Towers consists of twin towers with a residential function. There is also a swimming pool, cafe-restaurant services and various social facilities that serve the residential function.

Burgu Towers show finished form image in the context of *form-image* relations. In the twin towers, the crystal sculptural structure created by the glass of the twist form displays an iconic image. In the context of the *order* parameter, the symmetrical configuration of the twin towers in the site plan using defined axes indicates a rational scheme. In terms of *façade-mass* relations, the twin towers are composed of the entrance section and the main body. At the entrance, there is a basement where the towers sit. Twin residential towers rising in the form of a twist appear as the basic volumes of the main body. The massive *rhythm* created by the moving, repeating twin residences has also given a dynamic rhythm to the *façade*. Burgu Towers is located in Maltepe, the new centre of the Anatolian side of Istanbul, which is rapidly changing and transforming. There is a strong effect of the towers on the urban *silhouette* in terms of height, proportion and architectural image (Figure 3).



Figure 3. Burgu Towers, the image of the front façade from Seri Street

Kozyatağı-Ataşehir Residential Development Area

Kozyatağı-Ataşehir is defined as a high-level service centre with an international financial centre in line with the potential and current trends of the region. Varyap Meridian located

opposite the Istanbul Financial Centre is a mixed-use high-rise project that causes an urban transformation in the centre.

Varyap Meridian (2009-2010)

Designed by RMJM and Dome Partners, Varyap Meridian displays formalist lines of the expressionist period in terms of icon-index-symbol relations. Disconnection between form and function and the iconic image of the structure in the urban area, reflects an expressionist attitude. According to Icon (form) parameter, Varyap Meridian displays undefined, combined *geometries* in the form of the residential blocks. The structure consisting of a combination of blocks of different character and height gives a dynamic and changeable silhouette to the form of the *façade*. The remarkable discourses in the *architectural expression* emphasise that the project is an iconic design and is designed with respect to sustainable architectural principles.Varyap Meridian is a mixed-use high-rise project involving office, residential, hotel and commercial functions. In addition to the social facilities that serve the residential functions, the closed parking lot and bicycle parking areas directly connected to the block elevators are other functional units.

Varyap Meridian shows finished form image in the context of *form-image* relations. The project, which adopts the idea of an organic design by the deductive method the lines drawn from nature are reflected on the form, displays sculptural and dynamic lines. Also, the use of colour on the *façade* is another feature that gives movement to form. The layout of the site plan and blocks indicates the use of an asymmetrical *order*. In the massive *rhythm*, a dynamic rhythm was obtained with different opening directions of blocks in different character and height. The differentiation of massive rhythm and colour elements gives a dynamic and variable rhythm on the *façade*. In addition, Varyap Meridian is dominated on the city silhouette as to height and proportion. Opposite the Istanbul Financial Centre, the project has an important location within the urban fabric in terms of accessibility of the West Ataşehir region of the city. Also, depending on the density issue, the project could not be integrated into urban fabric at a macro scale (Figure 4).



Figure 4. The image showing the location of Varyap Meridian in the urban tissue

Historical Peninsula-Walls Residential Development Area

The Historical Peninsula and Walls development area represents the old centre and its periphery in Istanbul. The high-rises are built with residences, hotel and office buildings in recent years due to the need for luxury living in the city

centre (Erbaş & Erbil, 2013). Onaltıdokuz İstanbul and Ottomare Suites are residential and mixed-use high-rise projects in Zeytinburnu, transforming the silhouette of the city.

Onaltıdokuz İstanbul (2009-2010)

Designed by Alpar Architecture, Onaltıdokuz İstanbul is a late modern structure that reflects the final stages of rationalisation as an architectural line in terms of icon-index-symbol relations. According to Icon (form) parameter, Onaltıdokuz İstanbul displays a defined *geometry* with its rectangular prism in the form of towers. The mass relations created by these geometries give static, linear, rational lines to the *façade*. The main idea on which the *architectural concept* of Onaltıdokuz İstanbul project is reflected by Astay Real Estate, the developer of the project, in particular with the value given by the view of İstanbul. In addition, with the understanding of contemporary space and a different life philosophy, the emphasis is placed on the class status of owning such a housing type. *It* is a residential high-rise project involving three residence towers. In addition, it has secondary functions such as the shopping and living area, parking garage, sports and social facilities serving the residential function. The form of Onaltıdokuz İstanbul has rational, static and linear lines as part of its *form-image* relations. The *order* parameter displays the housing blocks sitting on a symmetric and axial order with the use of certain axes in site plan, parallel placement to the road and a dominating *façade* to the silhouette. In terms of *façade-mass* relations, there are three residential blocks of similar architectural forms but different heights. These three residential blocks are built on three separate volumes. In the order of the *façade*, the main body and the entrance section are separated from each other, but the roof is emphasised by the finish line of the residential towers. The roof is a continuation of the main body and does not behave as a different part from the main body. The massive *rhythm* represents three static, repetitive towers at different heights. On the *façade*, it is desired to make some movements in horizontal and vertical directions with special window arrangements, unlike the mass. This rhythm in the *façade* may soften the static appearance of the structure, but it also represents a regular order. The project, located along the Zeytinburnu coastline, represents a very controversial break in terms of the İstanbul *skyline* by rising from the left side of the Blue Mosque. Particularly, the fact that high-rise residential buildings are built so close to the historical peninsula indicates the decentralisation of vertical dense housing in İstanbul (Figure 5).



Figure 5. The image showing the location of Onaltıdokuz İstanbul in the urban tissue.

DISCUSSION

With the rise of mega projects, high-rise office and residence towers, mixed-use complexes and foreign investments developed in this context, İstanbul has become prominent as a world city in the global economy. In the process of globalisation, due to a lack of city centre, sub-centres and new residential development areas have appeared in the periphery of İstanbul. In the past, high-rise buildings were located densely on the Şişli-Maslak axis, the central business area of the city. However, Maltepe-Kartal, Kozyatağı-Ataşehir and Başakşehir-Beylikdüzü have appeared as new developing sub-centres of the city, which is in line with the multi-centred urban development model in İstanbul. There are five different urban foci where vertical dense housing has been concentrated, which has led to the urban transformation of the area with new developing projects, uses and functions. One high-rise project from each residential area is selected for the site analysis and examined according to the Semantic method and its sign model. Within the frame of the Sign model, the projects which were examined according to Icon, Index and Symbol sign parameters are the Sapphire Tower in the Şişli-Maslak area, Loca İstanbul in the Başakşehir-Beylikdüzü area, Burgu Towers in the Maltepe-Kartal area, Varyap Meridian in the Kozyatağı-Ataşehir area and finally Onaltıdokuz İstanbul in the Historical Peninsula and Walls area. All of these high-rise projects reflects multiple images according to icon-index-symbol sign analysis. Although they use mostly a rational order based on geometric form relations on site plan and floor plans, the *façades* can be differentiated as to form and image. In terms of geometry, they display typically combined geometries consisting of defined and undefined geometries as seen in the projects such as Varyap Meridian, Burgu Towers, and Loca İstanbul. As one of the tallest buildings in İstanbul, Sapphire Tower creates a reference point in İstanbul's cityscape with its height as well as its being an iconic structure that brings recognisability to the building and its around. In terms of *façade-form* relations, the undefined geometries bring iconic form image to the structures with dynamic and sculptural lines as seen in Sapphire, Varyap Meridian and Burgu Towers. There is also a disconnection between the form and function relationship in these high-rise residential building projects. The form is used generally as a shell covering the functions in the building, which is the attitude of expressionist and post-modern architecture. The *façade*, the form and the plan are not integrated with each other in most high-rise residential buildings. While the plan uses a rational order, the *façade* and the form show dynamic and changeable images in line with icon-index-sign relationships. In this respect, an integrative approach on the basis of architectural image and design cannot be discussed. On the contrary, the image is used just as a formalist attitude on high-rise housing projects. In addition, the main problem of high-rises in İstanbul is that the buildings are not integrated with the urban tissue and silhouette, as seen in the Varyap Meridian and Onaltıdokuz İstanbul projects. Many high-rises in İstanbul give a new silhouette to the city, but they indicate the lack of integrated urban design at a macro scale. The issue of polarisation and integration in the global metropolis is a major problem in terms of developing world cities. The new urban structure caused by globalisation consists of irregular crosses of differentiated textures, which prevents integration at macro scale. In this respect, İstanbul is similar to the examples of Mumbai, Mexico City, Sao Paulo in the context of both social and physical problems.

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