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Research Article

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Tracking Morphological Agencies in the Alienated Fringe Belt Plots of Istanbul

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Abstract

Fringe belts, founded on the peripheries of the city and thereafter being embedded in urbanized areas, can transform in time. They may either modify without losing the fringe belt character or alienate by being absorbed in residential or commercial growth. Especially in large cities with strong and rapid dynamics of change, the concept of fringe belt alienation can be a focal node for monitoring the transformations. Besides the morphological aspects, it is significant to examine the agencies that play roles behind these transformations. This paper intends to make contributions to the fringe belt literature in terms of morphological agencies by analyzing the alienated fringe belt plots in Istanbul that has the characteristics of both an ancient historical city and a megacity of today. The research deals with three major subjects: Istanbul's fringe belt development, alienated fringe belt plots by morphology, configuration and property, and agencies involved in the alienation processes. Firstly, inner, middle, and outer fringe belts of Istanbul are identified. Their formation phases are observed to put forth a typical narrative of Istanbul's urban development. Then, alienated fringe belt plots are analyzed with four case studies. The plot development cycles are examined to reveal the relationship between the plot and the building in each case. This examination addresses the phases of the formation and the first cycle of plot development. Second cycles are observed as the result of the transformations both in form and utilization. Finally, morphological agency networks of the cases are displayed by elaborating the active agents in transformation phases. They are categorized into five groups and analyzed by a network analysis. The motivations behind the agent behavior which reflect the periodization of urban development in Istanbul are also unveiled in this paper.

Keywords:
Fringe belt, fringe belt alienation, Istanbul, morphological agency, plot transformation

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INTRODUCTION

Concept of fringe belt within the scope of the historico-geographical perspective can be accepted as the keystone of analysis in urban morphology. As Whitehand (1966, p. 233) states, the concept provides a way to arrange and comprehend the complexity of urban morphology. It also suggests consistent rather than superficial generalizations in the urban form literature, and being more than a geographical explanation, the concept represents a kind of social value connected to the historical development of urban areas and the societies in them (Whitehand, 1966, p.233; Whitehand & Morton, 2003, p.822).

However, as in Lefebvre's (2009) discourse on the historical processes; societies, modes, and production relations are the main subject for urban space. In the built environment, the production relations result in different kinds of property relations, such as usus, fructus, and abuses, or dualities such as public and private (Günay, 1999). Therefore, property turns out to be a concept that should be regarded along with urban morphology. In particular, urban blocks -sometimes termed as street blocks (Conzen, 1960, p.5) or building blocks (Scheer, 2016, p.14)- consisting of plots, buildings, and streets, as being the basic building units of the urban form, are highly affected by property use and ownership, as well as actor relations. Urban actors are those who demand, plan, design, regulate, own, use, and support or protest the changes. These are defined as morphological agents (Larkham & Conzen, 2014) in this article and, we propose, can be clarified through the fringe belt concept and monitoring the plot development cycle. So, the aim of this study is to reveal the morphological agents of alienated fringe belt plots. The paper combines different levels of analysis on fringe belts through a historical investigation both at the metropolitan scale and specific case studies, incorporating a conception of property relations with the development cycles of plots and the roles of agents.

The city of Istanbul is recognized as an authentic case due to its ancient historical structure and being a megacity of today. Istanbul is also a part of a unique geography with critical population dynamics. In a city with such dynamics, change is inevitable. The morphological and property-based transformations in Istanbul, are concerned as a means of a field to monitor the changing dynamics of urban lands.

Conceptual Background

Fringe belts are described as peripheral urban forms with larger plots and less dense street patterns, and are recognized as larger and far more diverse land use types, unlike residential and commercial urban areas (Conzen, 1969). The land uses commonly found in the fringe belt are open space, industry, institutions, residential, and recreation (Conzen, 2009). The concept was worked on by Herbert Louis in Berlin, in 1936 prior to the Alnwick study of M. R. G. Conzen (1960) which developed the concept and major terminologies (Conzen, 1969). Whitehand (1972) and Barke (1982) defined the evolution process of the concept with an economic

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model based on the housing cycle and site selections. Fringe belts tend to be developed on cheaper lands at the fringes of the cities during economic slumps when the rate of housing production decreases (Whitehand, 1972), but they embed in the city as the city grows in time and transform in terms of land use and configuration (Conzen, 2009). The fringe belt areas are observed to be found in three different zones: inner fringe belt (IFB), middle belt (MFB), and outer fringe belt (OFB) (Barke, 1974; Conzen, 2009). Figure.1 shows the illustrated images derived by Conzen (2009), the fringe belt analysis of Berlin studied by Louis in 1936, and the fringe belt model developed by Whitehand in 1994.

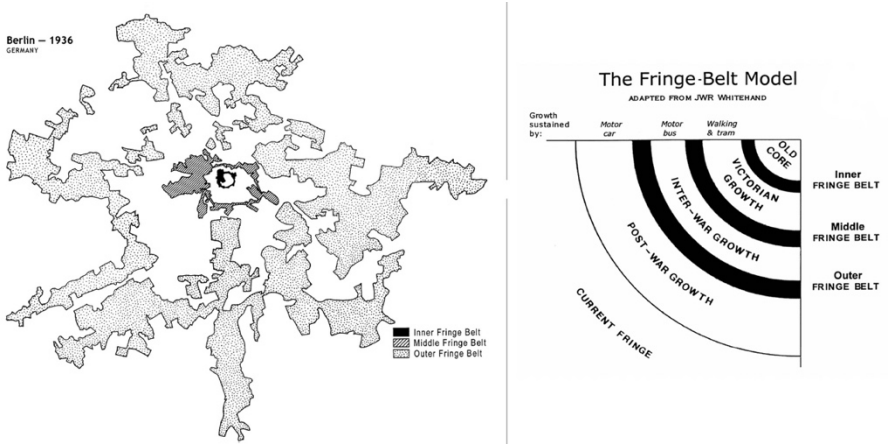

Figure 1. Fringe belts of Berlin in 1936 (left) and the fringe belt model (right) (derived from Conzen, 2009, p.32 and p.38).

The evolution phases of fringe belts are fixation, expansion, and consolidation. Modification processes are briefly categorized as alienation, reduction, and translation (Barke 1990; Conzen, 2009). If the land use of a fringe belt area changes into another fringe belt use, this signifies the persistence of the fringe belt character. However, if the fringe belt area alienates, this means the fringe belt character disappears and the land utilization turns into residential or commercial use. Reduction means losing a part of the fringe belt area by transforming it to any other use, and translation signifies the transfer of a particular use (say, a hospital or stadium) to another fringe belt zone (Conzen, 2009).

Fringe belts are researched by different researchers from several perspectives namely spatial, economic, social, and planning (Ünlü, 2013). The studies of Whitehand and Morton (2003, 2005, 2006) and Ducom (2005, 2008) mainly focused on planning actors and decision-making processes. Ducom (2005) addressed the dynamics in the formation and transformation process of fringe belt generations on the axis of actors and change processes. In his paper on the fringe belts of Auckland and Wellington, Gu (2014) elaborated on decision-making processes through key urban planning and design documents for those areas. Although these exemplary studies deal with the agency, they do not offer a systematic reading in terms of fringe belt transformations.

Kropf (2014) claims that the agent can be represented by the individual, the corporate, the charity, or the government. He, with his conceptual model based on Leighton Buzzard experience, touches on the

decision-making processes with the emergence and the transformation of the urban form (Kropf, 2014). Larkham and Conzen (2014) also underline that the discipline of urban morphology is functional to work on the agents who have roles in the transformation of urban form, from small scale to large scale. Hence, a network analysis of morphological agents that affects the fringe belt transformations integrated with Kropf's (2014) framework of agency, in which he groups the agents into four based on the aspect of the interest; individual, corporate, charity, and government (p.307). And he explains the agents within five groups, namely motive, generative, regulatory, resistive, and sensory agents in this paper. Although the relationship between these agent roles seems predictable, examining these relationships through case studies enables us to discuss the factors of plot transformation with evidence (Kropf, 2014, p.320). His perspective on morphological agency attests to fundamental and comprehensive indications for observation. An actor-based network analysis constitutes a practical method to reveal the reasons behind the changing form of the city by various agents, since it deals with the social relations between the actors in the network (Emirbayer & Goodwin, 1994).

EXPLORATION

The methodology contains three major parts. First, fringe belts of Istanbul were determined throughout the city, by using historical and current documents and data. Within these fringe belts, sub-case areas were selected in connection with the theoretical framework and the plots were identified for the case study that are four examples of fringe belt alienation. The four case areas, currently known as *Yedi Mavi*, *Maslak 1453*, *Torun Center*, and *Zorlu Center*, were examined through the fringe belt formation and transformation phases. Plot development cycle graphs were drawn for the case areas by focusing on morphological transformations, configurational changes in the parcel, and property relations. Finally, Kropf's categorization of agents was applied to the cases, and agent relations were evaluated through network analysis.

Identifying Fringe Belt Development in Istanbul

Turkish cases of fringe belt analysis were carried on with a Mediterranean perspective by Ünlü and Baş (2013, 2017) confirming the umbrella fringe belt model for multi-nuclei cities. Several studies focusing on the IFB development in the nucleus of Istanbul were discussed by Hazar and Kubat (2016) in the context of green urban corridors, and later by Kubat (2019) concerning the central business district (CBD) development of the city. MFBs and OFBs of Istanbul were also overviewed by Küçük Çalışkan and Kubat (2020) on the extent of mega projects.

Fringe belt areas of Istanbul were previously illustrated within a comparative study of the fringe belt developments in Istanbul and Barcelona, without evaluating the morphological periods of the city and mostly focused on the IFBs of the city by Hazar and Kubat (2015). This

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study presents a more rigorous and comprehensive fringe belt analysis to demonstrate the latest situation in Istanbul after 2015.

Urban Growth in Istanbul

Istanbul was first shaped on the Historical Peninsula and the other two coasts facing it, known as Kadıköy and Galata, then developed linearly on the south axis of the city and expanded to the north with new centers over time. In ancient Istanbul, which was founded in the 7th century BC and called Byzantium and remained the capital city of both Roman and Ottoman empires (Kubat, 2019), the urban land was governed as the property of the emperors, in line with the socio-cultural system of that period until modern times. Istanbul was shaped around the forum in the Roman period and continued to be developed around the bazaar during the Ottoman period under the influence of Islamic culture (Kubat, 2019). Spreading over two continents, half of which is on the European side and the other half on the Asian side, Istanbul was modernized with the revolutions of the Republic period which became official in 1923. The city developed as a port city up to the early Republican period. As a result of cautious steps for economic recovery after the First World War, the city grew more slowly in the first two decades of the Republican period. It started to develop rapidly after the 1950s, since the rural population start to intensely migrate to the cities due to increasing economy by the Marshall Plan and modernist movement (Şengül, 2001). Istanbul's urban development has spread both horizontally and vertically since the 1980s (Tekeli, 2013), with a period of strong intervention by the military regime, which paved the way to privatization in the city, especially in the field of infrastructure (Şengül, 2001). The city continued to expand after the 2000s by the joining of non-residential areas, along with critical urban transformation projects, and growing international investment in Istanbul.

IFBs, MFBs, and OFBs of Istanbul

In the identification of fringe belts, the morphological development and land utilization of Istanbul have been given primary consideration. Therefore, IFBs, MFBs, and OFBs of Istanbul were recognized more accurately and in more detail. The fringe belt concept brings with it the comparative examination of a set of historical data (Conzen, 2009). Data used in the analysis include insurance maps, namely Pervititch maps created between 1934-1938, satellite images from 1946 to 2022, and land utilization maps from the city plan dated 1980, 1994, 2006, and 2018. Figure.2 shows the current fringe belts of Istanbul.

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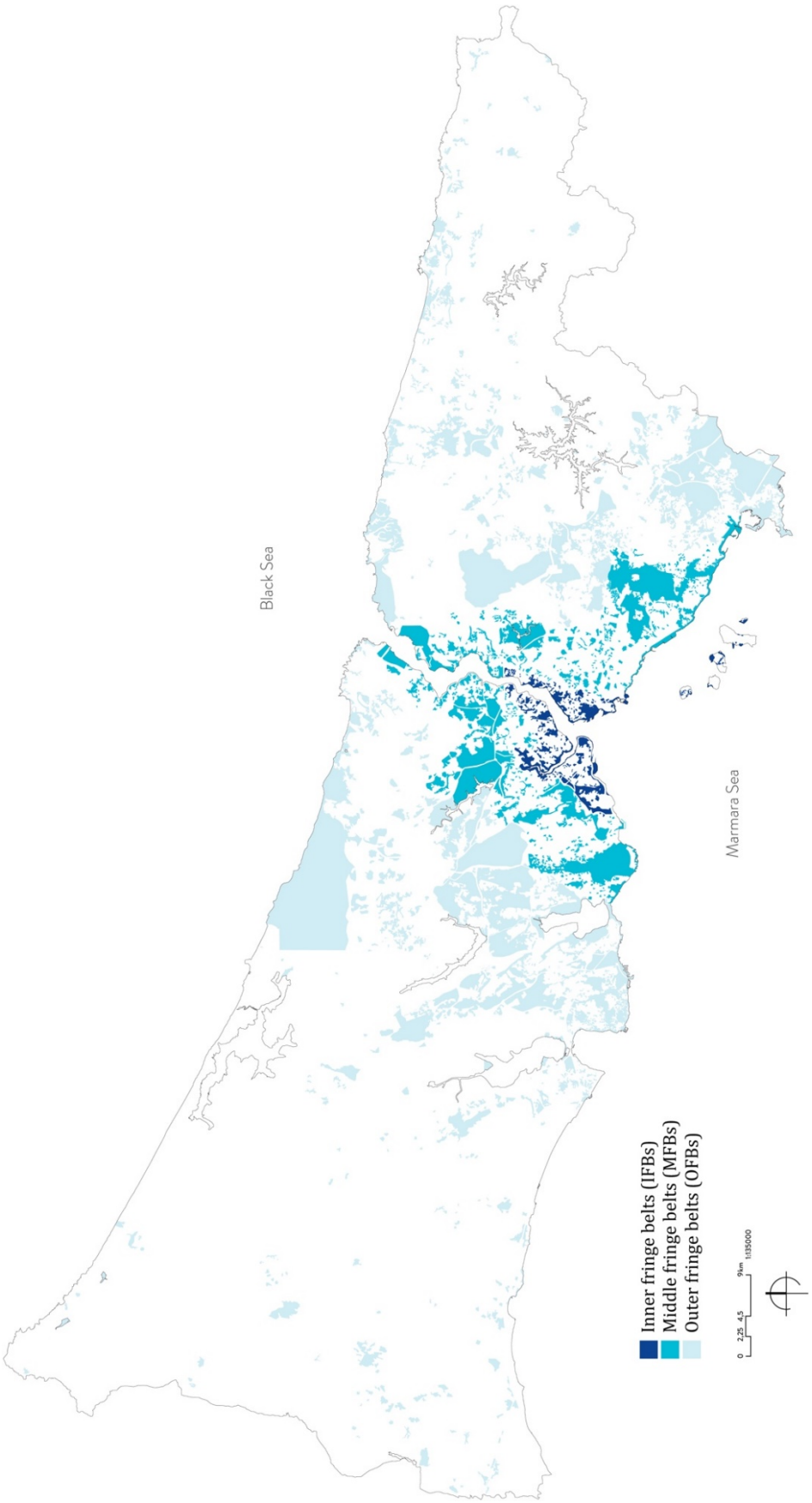

Figure 2. Inner, middle, and outer fringe belts of Istanbul in 2022.

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IFBs of Istanbul were formed around man-made and natural fixation lines. Some of these are the Theodosian Walls surrounding the Historic Peninsula and the Galata walls built in Byzantine and Roman periods, and natural ones like the Marmara Sea, the Golden Horn, and the Bosporus, which divide the city into three parts. IFBs consisted mostly of gardens and orchards (Kubat 2019; Hazar & Kubat, 2015). While many neighborhoods of Istanbul were destroyed by fires and rebuilt in the 18th century, new IFBs and MFBs were formed, especially with the construction of railways in the 19th century (Kubat, 2019). Henry Prost's plan for Istanbul in 1937 had significant effects on the spatial structure of Istanbul by developing medium and large-scale industries on the shores of the Golden Horn and the construction of state-owned factories and warehouses on the shores of the Bosporus, besides other conservative proposals toward the cultural heritage and natural landscape of the city (Kubat, 2019).

Most of IFBs expanded until 1945. This period indicates the stagnation of urban development in Istanbul. Between 1945 and 1980, IFB areas consolidated and MFBs of the city were fixed in accordance with the fixation lines such as boulevards, highways, and railways. In addition to population growth, developments in transportation systems, and increasing housing supply, urban development accelerated with new legal regulations in the field of urban management and zoning (Tekeli, 2013). In particular, the regulations regarding the choice of industrial location indicate that the fringe belts that emerged in this period were formed through urban planning. The urban form has become problematic by means of illegal housing, inaccessibility, destruction of traditional urban patterns, and unrestrained building act on urban openings. It was not surprising since the urban pattern has changed rapidly with the migration from the rural to the urban, the condominium rights inured in 1965, creating apartment buildings and the build-and-sell construction system since the 1970s (Şengül, 2001; Tekeli, 2013). The plot sizes shrunk, the industries spread out, the number of illegal housing units increased, and Istanbul reached another dimension with the construction of the Bosporus bridges connecting the two sides of the city (Tekeli, 2013). This process can be explained as continuous urban growth. During this period, the first airport of Istanbul, Atatürk Airport, was established as part of MFBs in the west of the city.

Since the 1980s, when privatization intensified, new legal regulations on squatting, urban transformation projects and gentrifications, as well as ongoing apartment constructions, gated community projects, and residences have been raised. Throughout the city, shopping malls spread, and new CBDs were planned on the northern axis (Kubat, 2019). Organized industrial areas, complexes and techno-parks emerged, and with increasing momentum, automobiles and alternative public transportation like the subway and metrobus began to be seen in the field of transportation (Tekeli, 2013). Istanbul has become globalized since it became a national and international center of economy, culture,

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education, and industry with its ever-increasing population (Küçük Çalışkan & Kubat, 2021). While Istanbul continued to develop on the railway and D-100 highway line (part of the Trans-European Motorway) parallel to the coast in the east, the urbanization pressure on the northern forest and the transformation of historical and cultural areas within the city increased. During this period, which lasted until the 2000s, MFBs were strengthened and OFBs appeared in Istanbul.

Whitehand (2019) asserted that the continuous fringe belts formed through fixation lines like green belts or other land use are mostly recognized in IFBs while the discontinuous ones, such as industrial areas are affected by fluctuations in urban development. Conzen (2009) highlighted that the industrial fringe belts include the formation of the middle and outer fringe belts based on the cases he investigated. Both propositions are also acceptable for the case of Istanbul. However, the difference is that Istanbul experienced a serious number of fringe belt alienations with configurational changes especially during last two decades, compared to classic European towns. The reasons for these changes include industrial decentralization processes of the city (Tekeli, 2013), rent-oriented urbanization policies, frequently updated legal regulations including zoning amnesty, increasing flexibility in the Turkish planning system (Türk, 2008), and re-determination of the city center and sub-centers within urban plans such as the Environmental Plans of Istanbul for the years of 2006 and 2009.

Many fringe belt areas, embedded within the city, started to change after the 2000s. Some of the IFB areas expanded by filling areas on the coasts. The natural assets, where the northern forests of Istanbul are located, began to be a part of urbanization during the last decade, since North Marmara Highway, the third Bosporus bridge, and Istanbul Airport were built in the northern part bordering the Black Sea. Such mega-urbanization, constantly on the agenda of discussions by different urban actors in socio-political and ecological terms, is the consequence of a period in which public lands were intensively privatized in terms of the property's location, and Istanbul became a city region (Küçük Çalışkan & Kubat, 2020).

Scrutinizing Alienated Fringe Belt Plots

The transformation of the fringe belt by alienation means the loss of fringe belt characteristics because growth causes them to become redeveloped as residential and commercial. For this study of Istanbul, the morphological and property-based transformation of plots with fringe belt alienation are selected as samples according to a set of primary and secondary criteria (Table.1). For morphological transformation, criteria are arranged in two separate focuses. In *morphological transformation–A*, fringe belt alienation is primary and differentiation in the initial land uses of the plots is secondary criteria. For *morphological transformation-B* which is based on configurational changes, the compact transformation among plot, building, and street is the primary criterion, while a high level

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of building coverage on the plot is secondary. As the indicators of *property transformation*, the transition of property from public ownership to private ownership is a primary condition, and objections to the transformation process by any agent are secondary criteria. Finally, cases were selected based on their centrality and their *location* in IFBs and MFBs of Istanbul, where the change was intense.

Table 1. Criteria for case selection

Axes of criteria	Morphological transformation - A (based on land utilization)	Morphological transformation - B (based on configurations)	Property transformation	Location
Primary criteria	Fringe belt utilization to alienation	Among street, plot and building	From public property to private property	In IFBs or MFBs
Secondary criteria	Different initial land uses	High building coverage	Objection to the process by agents	In the CBD

Four case studies were ultimately selected (Figure.3). Case-1 reveals the transformation of *the meat and fish factory* from the IFB area to the *Yedi Mavi* project area. It is an example of the transformation to residential use from an industrial area. Case-2 is the transformation of an open area, which was a *forest area* within the MFB, and became *Maslak 1453* residential project. Case-3 represents the transformation of a recreational area, *Ali Sami Yen Stadium*, to a commercial area, *Torun Center*. This case is also from the MFB and planned CBD of Istanbul. And case-4 shows an example of the transformation of an institutional area to commercial use, which is the transformation of *the 17th Regional Directorate of Highways* into *Zorlu Center*. Arguably, these cases are crucial since they have created a debate in the public eye as "megaprojects" that affect a set of dynamics, from urban identity to urban economy (MegaİstanbuI, 2021), as well as Istanbul's urban form.

The plot has always been the most significant unit in Conzenian morphology. According to Conzen (1960), the plot itself should be examined with definitive terminologies such as plot head, plot tail, or plot division, besides the concepts of plot series, plot cycles, or plot pattern. Scheer (2016) draws attention to the morphological approaches to the changes in the urban form by claiming that the evolution, transformation, and distribution of the existing forms reveal the concepts of typological or evolutionary cycles in shaping cities. She (2016) highlights common consequences of the time factor and location in the concepts on urban change to verify the role of the persistence of morphological elements in the urban form. Plot pattern is generally recognized as the most persistent element among other urban block elements (Conzen, 1960). However, this general assumption may fail to explain the burgeoning transformation process accelerated with regulations or implementations in the rapidly changing big cities of today. Planning praxis, policies, and socio-cultural dynamics behind the transformation of the urban form assure closer scrutiny of the plot together with related agents.

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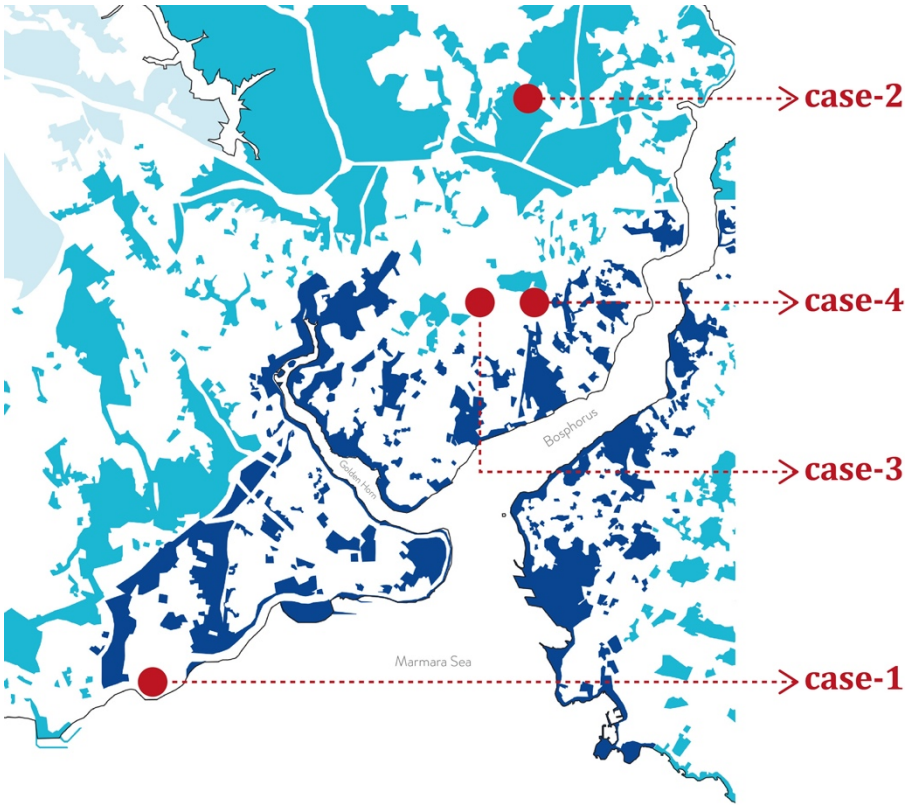

Figure 3. Location of selected cases in a closer scale, from the map of Istanbul's fringe belts.

The development cycle of the plot series, which Conzen (1969) puts forward with the concept of burgage cycle, is at the forefront of the studies that prove this by revealing all the changes in the plot (Ünlü & Baş, 2017). Most studies produced within the scope of urban morphology literature reveal plot-based cycles. Zhang (2014) explored morphogenetic types in Guangzhou, considering social and economic facts. Le Font and De Visscher (2020) questioned how typo-morphological features affect durability in heterogeneous urban fabric. Ünlü and Baş (2017), in their study on Mersin, examined the dynamics of the formation and transformation of residential plots in Turkish cities through morphogenetic types. Especially, the density of buildings on the plot has been regarded in many morphological studies held in the light of different methods (Topçu & Southworth, 2014; Çalışkan & Mashhoodi, 2017; Remali & Porta, 2017).

This paper considers the transformation cycle of fringe belt plots, not in the plot series but on the cycle within the plot itself. Plot development cycles are graphed as a percentage of building coverage (floor area ratio or "FAR") by year. The beginning year of each land utilization is also indicated in the chart. Building coverage is defined as in the "repletive phase" when the plot starts to add more buildings, the "climax phase" when it reaches its limits, and the "recessive phase" when the construction in the parcel starts to decrease with demolitions (Conzen, 1969).

Development cycles of case-1 (Figure.4), case-3 (Figure.6), and case-4 (Figure.7) connote a similar pattern. Since case-2 (Figure.5) transforms from an open space to a built area, only the recessive and climax phases

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can be observed. In addition, the area of case-2 compared to the other cases is larger. While the recessive and second repletive phases of case-1 and case-4 are more parallel, case-3 and case-4 are more than the others when it comes to building coverage. The location of these two building blocks in the city and the fact that they are in the main commercial center indicated on Istanbul's zoning plans are the reason behind this situation.

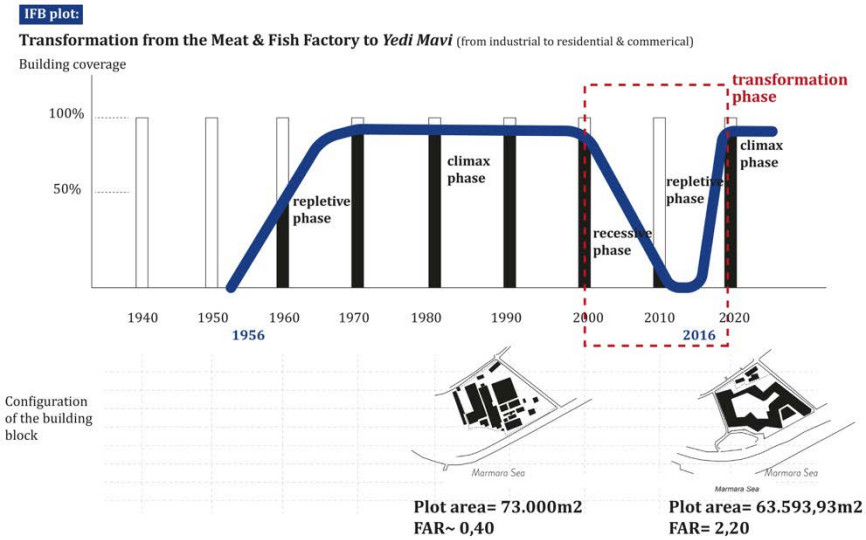

Figure 4. Plot development cycle of case-1.

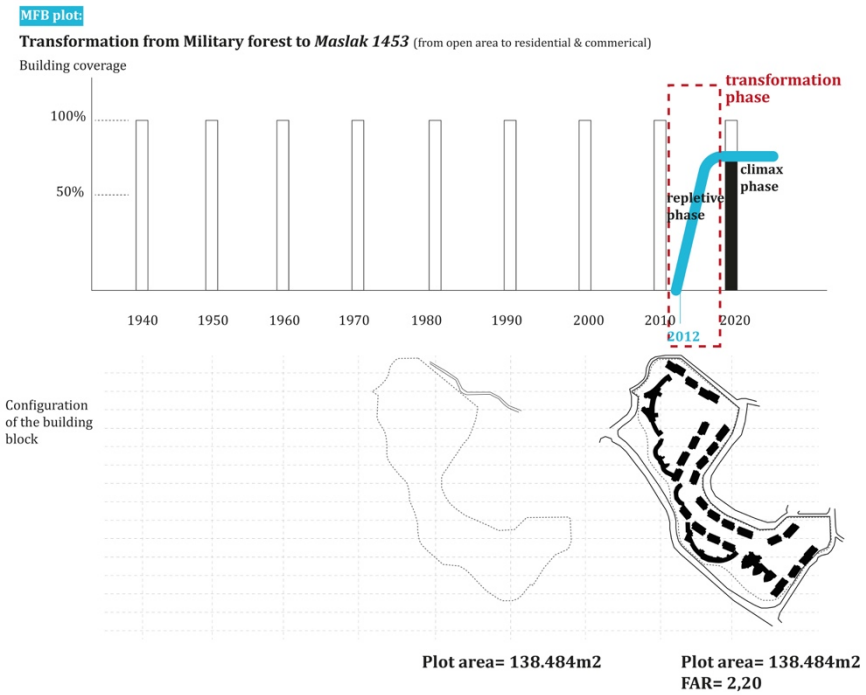

Figure 5. Plot development cycle of case-2.

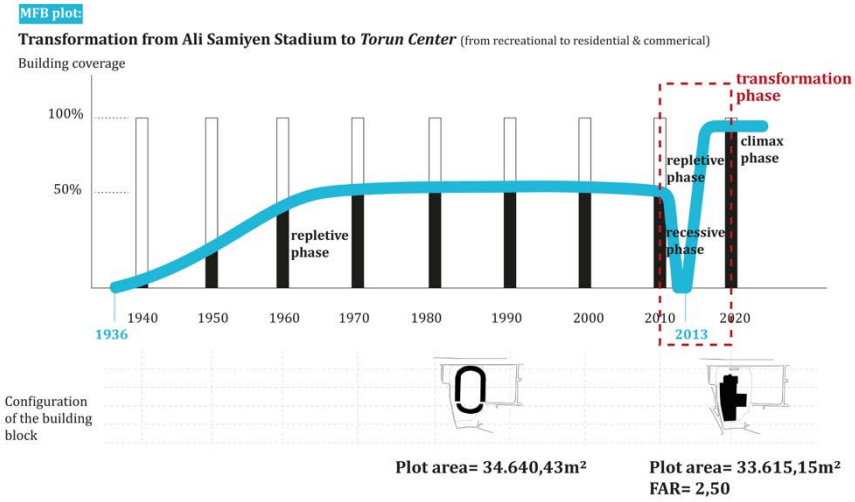

Figure 6. Plot development cycle of case-3.

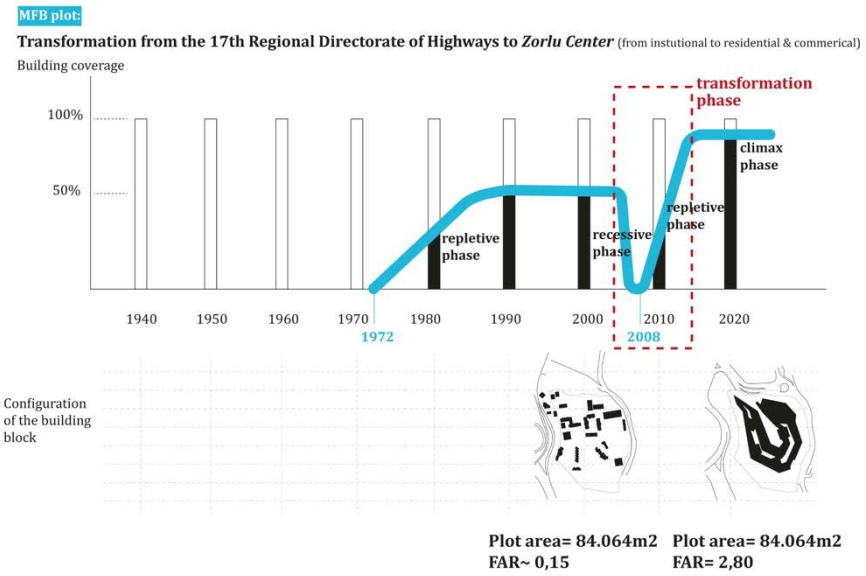

Figure 7. Plot development cycle of case-4.

In the next analysis, the case files of the professional chambers that objected to the process and the archives of the newspapers were used. Each of the cases is represented within four steps: The first two reveal morphological transformations based on land utilization and configuration. The last two steps explore property transformations and agent relations in the transformation phase. By implication, cases were compared according to the main selection criteria.

Case-1: Transformation from Meat & Fish Factory to Yedi Mavi

Change in land utilization: Case-1, located on the coast of the Marmara Sea in the southwest of the Historical Peninsula, was a part of IFBs. The area, which started its activities as a meat and fish factory in 1956, was sustained until 2003 as an industrial fringe belt plot. After losing its old function in 2003, Case-1 was alienated from the fringe belt to a residential area, namely Yedi Mavi in 2016 (Figure.7). *Configurational changes*: The area is a medium-sized plot surrounded by streets on three sides. In the transformation process, the plot has been divided. A smaller part of the

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plot remained as an institutional area. Thus, Case-1 also represents the fringe belt reduction. The plot became dominated by towers with a FAR of 2,20 increased from ~0,40. *Property transformation*: The area remained in public ownership until its transformation. It changed to private property with multiple owners after alienation. *Agent relations in the transformation phase*: In this process, the Union of Chambers and Commodity Exchanges of Turkey, which owns the land, put the land up for sale in 2011 (MegaİstanbuI, 2021). In 2014, the Ministry of Environment and Urban Planning (MoEU) suspended the zoning plan amendment for this area. The Union of Chambers of Turkish Engineers and Architects (UCTEA) Chamber of Urban Planners Istanbul Branch sued for violation of public interest. Although it was canceled by the Istanbul 1st Administrative Court, the Istanbul 4th Administrative Court canceled the plans. However, the construction continued and it was announced for sale in 2016. In 2018, the project was decided to be canceled by the Istanbul 4th Administrative Court again, but in 2021, the cancellation decision was canceled by the Istanbul Regional Administrative Court. The case is significant as being the transformation of a public industrial area as being a part of the periphery of the historical city, located on the shores of the Marmara Sea. In addition, another critical issue that has been addressed is the damage to Istanbul's silhouette caused by the height of the buildings (Court Case File-3; Kundakçı, 2014).

Figure 7. Meat & Fish Factory, 1966 satellite image (left), Yedi Mavi, 2022 Google earth image (right).

Case-2: Transformation from military forest to Maslak 1453

Change in land utilization: Case-2 differs from the other cases examined because of being a fringe belt alienation of an ecological land. Founded in the MFBs of Istanbul, it basically represents a transformation from the open area to the residential area (Figure.8). *Configurational changes*: The plot is still surrounded by streets. The plot was built with a FAR of 2,20. *Property transformation*: Case-2, the largest parcel area among other case studies, was transferred to private ownership with multi-proprietor through the sale of public ownership as single-proprietor. *Agent relations in the transformation phase*: The land was first owned by the Ministry of Forestry and Water Management and was

forestry as part of a military area. The area was being used as a recreation area and there was no construction in that period. The Mass Housing Development Administration of Turkey (TOKİ) proposed a residential area with some commercial use for the area in 2010 and the plan that TOKİ prepared was approved by MoEU. Although the annulment action filed by the UCTEA Chamber of Urban Planners Istanbul Branch over the 6th Administrative Court was rejected, it was overturned by the 6th Chamber of the Council of State in 2014. In 2015, the UCTEA Chamber of Urban Planners Istanbul Branch filed a lawsuit against Sarıyer Municipality through the 12th Administrative Court, since the plot was within the borders of the district of Sarıyer. In 2017, the appeals were dismissed. Meanwhile, construction continued by Emlak Konut Real Estate Investment Company and Ağaoğlu Group of Companies. Since the district boundaries were changed in the process, the UCTEA Chamber of Urban Planners Istanbul Branch filed a lawsuit against Şişli Municipality through the 4th Administrative Law Office of the Istanbul Regional Court in 2018 (Court Case File-2; Biçer, 2013). The project started in 2012 and was completed in 2016 (MegaİstanbuI, 2021).

Figure 8. Military area, 2006 Google earth image (left), Maslak 1453, 2021 Google earth image (right).

Case-3: Transformation from Ali Sami Yen Stadium to Torun Center

Change in land utilization: Case-3, located in MFBs of Istanbul, presents an example of the transformation of a recreational fringe belt plot into a commercially-dense residence area. That fringe belt plot, whose fixation line was the highway following first Bosporus bridge of the city, has been used as a football field since 1936 as public land. Galatasaray Sports Club stadium was built on the land in 1964. This case is an example of fringe belt migration aside from alienation, since the existing fringe belt use has been transferred, or migrated in another say, to another place within the same city. *Configurational changes*: The building coverage of the plot increased to FAR 2.50. After the presence of a sports arena, the height of the new construction changed the plot and building relationship radically. *Property transformation*: The plot of the stadium was public land and rented to the sports club until 2007. It was sold to Torun REIC during the construction process of the new project

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(Figure.9). It turned from sole proprietor to multi-proprietor. *Agent relations in the transformation phase*: TOKİ purchased the land in return for a new stadium to be built in another location of the city for the land whose usage rights were leased until 2007 (MegaİstanbuI, 2021). The first plan made in the same year was canceled in 2009, upon the objections of reducing the precedent in the plan from 3 to 2.5, and the UCTEA Chamber of Architects Istanbul Branch, upon objections that the proposed functions were provided in Mecidiyeköy. TOKİ prepared the zoning plans in 2010 and went out to tender. The tender, which started with the partnership of two construction companies, was transferred to Torun REIC, which was later included. The UCTEA Chamber of Urban Planners Istanbul Branch filed an action for an annulment through the 7th Administrative Court, but it was not accepted. Construction of the new project started in 2012 and was completed in 2016. Although the UCTEA Chamber of Urban Planners Istanbul Branch applied to the 6th Chamber of the Istanbul Council of State to reverse the decision, it was not accepted (Court Case File-1; Gürkan Yılmaz, 2014).

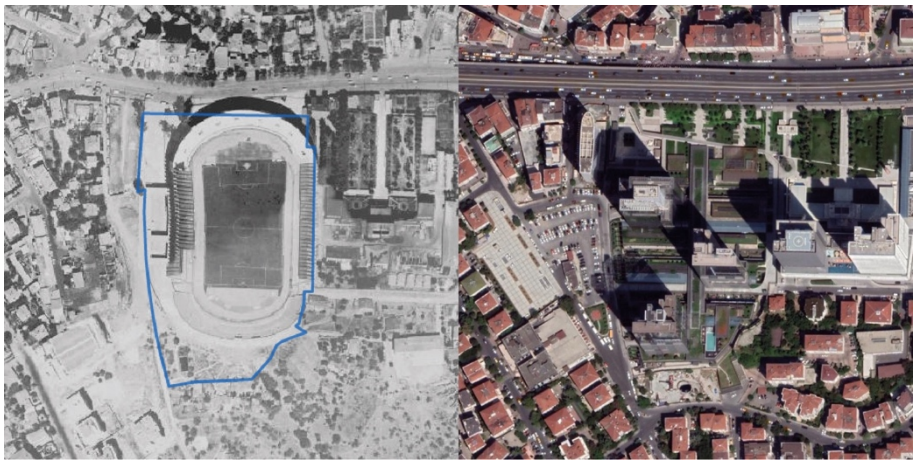

Figure 9. Ali Sami Yen Stadium, 1966 satellite image (left), Torun Center, 2022 Google earth image (right).

Case-4: Transformation from the 17th Regional Directorate of Highways to Zorlu Center

Change in land utilization: Case-4 refers to the alienation of a fringe belt plot in institutional land use by changing it into a commercial-dominated residential area. The land began to be used as the General Directorate of Highways in 1972 and transformed into a commercial center with residences and business centers (Figure.10). *Configurational changes*: This plot, which is surrounded by the street on two sides, points to a medium-sized but amorphous form like the other examples. It is seen that the parcel has reached the maximum level in terms of building occupancy compared to before the transformation. In the field, FAR has increased to 2.80 from ~0,15. *Property transformation*: It was public land which is changed into a private one with the multi-proprietor. *Agent relations in the transformation phase*: The area ceased its initial function in 2004 and was put out to tender by the Privatization Administration in 2007 on behalf of the General Directorate of Highways. Zorlu Property won the tender (MegaİstanbuI, 2021). Architecture and urban design

competitions were opened for the project to be built on the land. Emre Arolat Architects and Tabanlıoğlu Architects won the competition. As a result of the lawsuit filed in 2008 by the UCTEA Chamber of Surveying Engineers, the UCTEA Chamber of Civil Engineers, and the UCTEA Chamber of Architects with a request for cancelation of the plan on the grounds that protecting the historical values of the Bosphorus and limiting the structures that will increase the population density in this area, the construction was stopped for a while. However, the stay of execution decision was revoked by the Council of State Administrative Litigation Departments as a result of the objection of Zorlu Property. The UCTEA Chamber of Urban Planners Istanbul Branch also filed lawsuits against Beşiktaş Municipality due to both unlawful practices and also the annulment of the zoning plan amendment. In 2007, the UCTEA Chamber of Urban Planners Istanbul Branch filed a lawsuit against the Privatization Administration for the cancellation of the zoning plan, through the 6th Chamber of the Council of State, and an annulment decision was made. Although the plan was decided to be canceled, the Council of State Administrative Litigation Chambers reversed that decision on the grounds that it was not inconsistent with the public interest (Court Case File-4; Sudaş, 2014). Hence, Zorlu Center was opened in 2013 (MegaİstanbuI, 2021).

Figure 10. The 17th Regional Directorate of Highways, 1982 satellite image (left), Zorlu Center, 2022 Google earth image (right).

The flow of agent relations examined in the transformation process includes many back-and-forth processes. This attests to the conflict of many agents' pressure on the transformation in urban lands and the particular extent of resistance from the side of the chamber of professions. All case studies have some common features. The first of these is that the ownership changes from public to private companies or individuals. Central government bodies, like ministries and TOKİ, became the facilitator of the changing demand for urban land. The second is that local authorities were not strong enough to manage the transformation processes in their cities if the decision was made by the central government, who is the primary agent of the processes. While professional chambers seek the public interest and planning ethics, in most cases court decisions seem to be far away from the right to the city.

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Case studies also indicate that the constructions were completed despite the appeal cases filed and even the stay of execution in most of the cases. Third, due to the housing types appealing to the high income groups, the FAR of the plots increased and land ownership has changed with the sales transactions carried out through the revenue-sharing model.

Unveiling Morphological Agency Networks

As Healy (1994) states the private sector has needed the public sector as a developer and planning regulator to ensure development opportunities in the United States since the 1980s (Healy, 1994). This also applies to Turkish practices. In Istanbul since the 2000s, negotiations with land developers create obligations for large-scale projects to provide off-site infrastructure areas directly on-site and to legalize or resolve legal issues associated with mega projects in Türkiye (Türk, 2018). In the case studies, negotiable-developer obligations are a common characteristic. Nevertheless, all processes between cases are not the same. The transformation process in case-1 is longer than in the other cases. Case-2 differs by the occupation of an area where there was no construction before and not predicted to be found. In case-3, migration of the initial use of the fringe belt plot is a specific situation.

In this part, the agents in the cases are examined first by grouping the agent roles and then by creating an agency network analysis. In a series of studies edited by Larkham and Conzen (2014), morphological agencies as enlarging the cause-effect relationship in urban form problems were discussed within the historical periods from the pre-modern to the postmodern era. Especially, Kropf (2014) underlines the theoretical frame of the agency in the built environment considering its relationality and sociality. He grouped the roles of the agents as follows: motive agents who drive the proposal for transformation, generative agents who make proposals for change, regulatory agents who control the proposal, resistive agents who oppose the proposal, and sensory agents who have affected by or have the rights on the property (Kropf, 2014). Though there is a permeability between them, not an absolute sharpness, the agent profile in this research range from central to local governments as generative and regulatory agents, private property owners and developers as motive agents, NGOs and professional chambers as resistive agents, and eventual land owners and urbanities as sensory agents. Each of the four examples is classified according to Kropf's categorization of agencies (Table.2).

The analysis indicates that motivated and resistive agents are practically the same for each case. Generative agents are similarly private companies with different identities. The central government is among the regulatory agents in case-1 and case-2, while municipalities seem more operative in case-3 and case-4. Sensory agents show the initial and latest owners of the properties.

Table 2. Agent roles in case studies, prepared by the authors

Agent Roles	Case Codes			
	Case-1	**Case-2**	**Case-3**	**Case-4**
Motive agents	The Union of Chambers and Commodity Exchanges of Turkey, Mass Housing Development Administration of Turkey (TOKİ)	TOKİ	TOKİ	The Privatization Administration of Turkey
Generative agents	Kalkavan Construction, Hasan Sever Construction, Gül Construction	Ağaoğlu Group of Companies, Sarıyer Municipality, Emlak Konut Real Estate Investment Company	Aşçıoğlu Construction, Torunlar REIC, Kapicioglu Construction, Emre Arolat Architect	Zorlu Property, Aktürk Consturciton, Emre Arolat Architects, Tabanlıoğlu Architects
Regulatory agents	Ministry of Environment and Urban Planning (MoEU), the 4th Administrative Court	MoEU, the 6th Administrative Court, the 12th Administrative Court, the 4th Administrative Court	TOKİ, Sarıyer Municipality, Şişli Municipality, the 6th Chamber of the Council of State, 7th Administrative Court	Istanbul Metropolitan Municipality, Beşiktaş Municipality, the 6th Chamber of the Council of State, the Council of State Administrative Litigation Chambers
Resistive agents	The UCTEA Chamber of Urban Planners Istanbul Branch	The UCTEA Chamber of Urban Planners Istanbul Branch	The UCTEA Chamber of Urban Planners Istanbul Branch	The UCTEA Chamber of Urban Planners Istanbul Branch, the UCTEA Chamber of Architects, the UCTEA Chamber of Civil Engineers, the UCTEA Chamber of Surveying Engineers
Sensory agents	Meat and Fish Institution, the Union of Chambers and Commodity Exchanges of Turkey	Ağaoğlu Group of Companies, Military administration, New house and shop owners	Torunlar Construction, Galatasaray Sports Club, New house and shop owners	The General Directorate of Highways, Zorlu Property, New house and shop owners

In addition to similarities and differences in the cases, a network analysis was applied to understand the intra-case relationships and to discover the connection among same agents in different cases. Network analysis is a tool for observing social structure and relations. The theory also contains terminologies such as the "range" which represents the number of connections of an agent, the social circle in which each of the agencies is linked to others, and the "content", which means the type of connections (Emirbayer & Goodwin, 1994). All agents involved in the cases were expressed in their roles as outlined. Nevertheless, the interventions of non-governmental organizations or banks that funded the transformation processes are not included in the analysis.

Agents with multiple roles were also displayed. While creating a classification and network analysis according to the agent roles for

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discussed cases, three types of actor statuses are also considered. They are public bodies, private companies, and associations. The relationship within each case was expressed by a separate legend, as connection lines. Figure.11, clarifies the relations among the agents discovered for each case. Considering all the cases together, the Environment and Urban Ministry, TOKİ, the UCTEA Chamber of Urban Planners Istanbul Branch, and 4th and 6th administrative courts, which were active in more than one case, were identified as the agencies with the highest range.

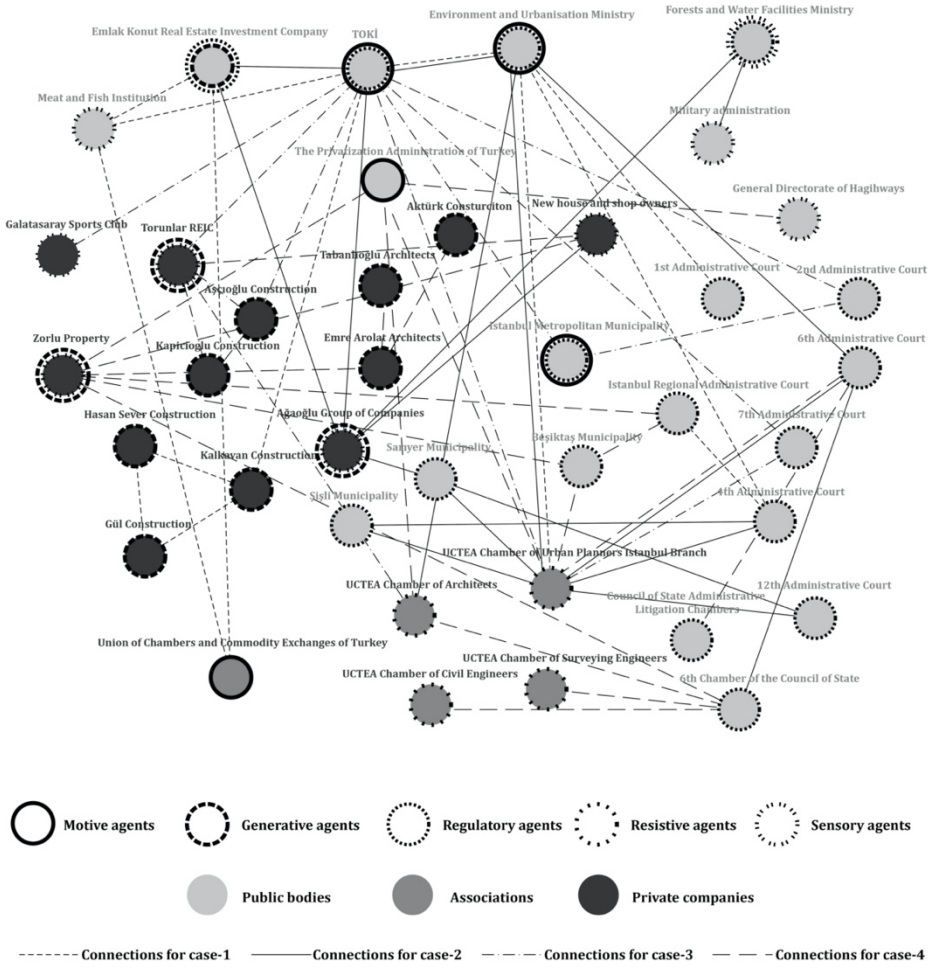

Figure 11. Agency network of the case studies.

In cities managed with a rent-oriented approach, the high land values stemming from their central location cause the transformation of urban land into housing areas for high-income classes, business centers or chain stores by pushing and even breaking the limits of the existing zoning plan decisions. This proposition is confirmed in the Istanbul study, which shows that fringe belt alienation eliminates even the agents who struggle to take legal actions against the violation of planning principles and legislation.

CONCLUSION

Transformations are unavoidable in the cities. However, why and how the urban land transforms can be examined through perspective on urban morphology including the agency conceptualizations. This study is

carried out to shed fresh light on the understanding of the role of morphological agents in the process of urban change, fringe belt alienation in particular. The outcomes can be summarized in the following three points. First, the city of Istanbul was revealed to have inner, middle, and outer fringe belt areas. Some of these areas were alienated as expected from a continuously developing megacity. The analysis clarified that despite its constant and rapid change dynamics, the fringe belt areas remain in Istanbul. Most of the IFB areas have been modified without losing their fringe belt character. The historical structure of the city was significant for decision-makers in that situation. Therefore, residential or commercial-oriented development is considered for the new centers planned in the MFBs of Istanbul rather than the IFBs. Nevertheless, this is not true for all cases, as can be seen from case-1.

Second, the plot development cycle for alienated fringe belt areas is an indication of the second development cycle of the plots. The second plot development cycle will last much longer than the first cycle, as the property structure changes into both private ownership and multi-proprietor, unless, of course, various disasters with devastating consequences occur. This raises the issue of whether the permanence of morphological elements can be determined as typical to the city when development cycles of plot series in residential areas and in fringe belt plots are considered together.

Finally, agent motivations appear as one of the debatable results of this research. In Istanbul, the period between 1980 and the middle of the 2000s can be interpreted as the period when capital gained strength with spatial production. Decision-makers focused on the rise of land value for economic development in the cities. Although privatizations intensified in this period, the urban plans and the case studies prove that, especially after 2008, following the economic crisis, the neoliberal practices, where the urban land became more easily marketable for more rent, became more severe. The international capital's strong interest in Istanbul, especially in the periphery plot transformations that took place in the period until the economic crisis between 2004-2008, resulted in the cooperation of local and central administrations, which were the supporters of the transformation and led by the same political backgrounds. The government agents play the same roles in the selected cases. This situation is theoretically acceptable. However, while the role that the government agents take can be converted to the benefit of the entire public, the plan and privatization of the residential areas that appeal to commercial or high-income segments are made by the private sector. If the change is not resistible, public lands should be regenerated to serve all citizens equally and in a sustainable way. Clearly, the struggles and interventions of semi-governmental institutions or non-governmental organizations that monitor urban practices did not yield results. The solution may be to be more demanding on legal processes and those who carry them out. Urbanities should be more active in asking

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about their rights to all institutions responsible for providing services to them in the city where they live, especially in publicly-owned areas that they have the right to use equally.

The study has the potential to provide more comprehensive inferences with different analyzes that will reveal the relationship of alienated plots with the surrounding urban texture. For instance, inventions and assessments on multi-nuclei cities (Ünlü & Baş, 2017; Kubat 2019); space syntax method, in which accessibility and integration values to the CBD, or to fixation lines such as the shores can be examined at the street network (Topçu & Kubat, 2009); or morphological regionalization as a major concept of Conzenian tradition, that is based on the relation among homogenous urban forms (Küçük & Kubat, 2014) can be used to discuss the correlation between the explored transformations on plot and the urban pattern in which the plot belongs. Moreover, this research presents a representative response to who shapes the city, and who changes it. The question of why the identified agents shape and change the city requires additional analyses of the agent motivations. A more complete explanation of agent behaviors would denote the reasons behind all the back-and-forth in court decisions during the transformation process in fringe belt plots. The methodology designed for this study can be the first step for further investigations.

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