The city-region and the challenge of its representation: The hierarchical network of newly built neighborhoods in the Tel Aviv Metropolitan Area

Tali Hatuka
Tel Aviv University, Israel

Roni Bar
Tel Aviv University, Israel

Abstract

This paper addresses the challenge of conceptualizing and analyzing contemporary city-regions, arguing that the definitions of the city-region are influenced by the methods used to explore it and that in most cases, regions are not either/or but rather are complex juxtapositions of (sometimes) conflicting concepts. In exploring this argument, the paper presents the contemporary tension between the concepts of "hierarchical" and "network," with the latter often being viewed as the organizing logic of contemporary city-regionalism. Using the case of the Tel Aviv Metropolitan Area, the paper focuses on the development of new neighborhoods in the city-region, constructed from the 1990s onwards, and the effect of this development on the region as a whole. Although a socio-spatial analysis of this development reveals that the design of new neighborhoods follows a similar prototype that might reinforce the idea of an urban network, the geographical spread of new neighborhoods throughout the region reveals a hierarchical structure that preserves existing economic and political distinctions between the core and periphery. The questions addressed in this paper extend beyond the case of Tel Aviv and can be considered in the context of the "regional question" and the ongoing search for its contemporary representation.

Corresponding author:
Tali Hatuka, Department of Geography and Human Environment, Laboratory for Contemporary Urban Design (LCUD), Tel Aviv University, Tel Aviv, Israel.
Email: hatuka@post.tau.ac.il

Keywords
Urban planning, neighborhoods, urban network, city-regionalism, representation

There is a growing recognition that contemporary configurations of regions are networks of economic, social and political powers (Hall, 2009; Healey, 2007; Turok, 2009). It is argued that social and economic processes occur on a growing geographical scale beyond that of the city, transforming historically separate metropolitan areas into connected polycentric regions (Burger et al., 2014). Advocates of this approach argue that the traditional Christallerian central-place conceptualization of urban systems is outdated and can best be replaced by a network view of urban systems with no urban hierarchy and a significant degree of spatial integration between different centers (Burger et al., 2014: 1921). However, the idea of the network as the organizing logic of contemporary global environments – and, in particular, city-regionalism – is questioned by scholars, who argue that it is too soon to completely abandon the idea of the hierarchical system and its development by the nation-state (Jonas and Ward, 2007; Kirby and Abu-Rass, 1999). Instead, some recognize a paradoxical pattern in which the formation of regional networks reinforces the dispersion of urban activities while also fostering their concentration in specific locales (Albrechts and Mandelbaum, 2005).

The tension between the concept of the network system (i.e. multi-nodal, multidirectional, polycentric agglomerations of economies shared among a group of cities) and the concept of the hierarchical system (i.e. uni-nodal, unidirectional, monocentric agglomerations of economies restricted to the urban core) is fueled by urban theorists, who have identified "a radical break" in urbanization (Brenner, 2002; Dear, 2000, 2003; Lang, 2003) in reference to the quasi-urban quasi-suburban dispersed development across the urban region (Sieverts, 2003; Soja, 2000). However, as critically noted by Beauregard (2006: 220), a radical break does not occur "at once"; *it is a process*, and it certainly has different paths in varied contexts. Furthermore, despite the enthusiasm for urban network systems, to what extent these systems have become more polycentric and spatially integrated remains unclear (Burger et al., 2014: 1921). This is the departure point of the paper, which perceives the tension between the network system and hierarchical system not as binary of either/or but rather as a dynamic in which both concepts represent competing, juxtaposed ideas that shape and re-shape the city-region.

In exploring this argument, this paper focuses on contemporary developments in the *Tel Aviv Metropolitan Area*, an urban region comprising more than 3 million of Israel's 8,600,000 inhabitants (Central Bureau of Statistics, 2015a). More specifically, the paper focuses on the development of more than 70 new neighborhoods in existing cities, which are used as a main tool for urban growth and for the provision of housing. The development of these new neighborhoods is accumulative and has spanned from the 1990s to the present. However, although located in different cities, these neighborhoods follow a similar planning-design prototype based on four key elements: first, a location within the municipal boundary of the city, on its edge; second, mainly multiple-floor apartment buildings; third, heightened vehicular connectivity outwards and spatial order (e.g. program, building typologies and urban design) inwards, fostering predictability and familiarity; and fourth, support of a uniform lifestyle and social values for middle-class families. The scope of this phenomenon, its socio-spatial characteristics and its spread throughout the metropolitan

area (Hatuka et al., 2012) raise questions regarding how and whether these recent developments have changed the structure and conceptualization of the metropolitan area. If the neighborhoods indeed follow a similar planning-design prototype, is living in a neighborhood located in the center of the metropolitan area equivalent to residing in a neighborhood located at its edge? In addition, does this pattern of development, which started almost three decades ago, alter the hierarchical system (i.e. monocentric and hierarchical, with Tel Aviv City acting as the core for all other cities in the metropolitan area) so that it now represents a network system (i.e. a polycentric web of cities, with relatively similar opportunities and lifestyles provided in the newly built neighborhoods)?

Following these questions, this study presents the following: (1) a socio-spatial perspective addressing the characteristics of the neighborhoods, their relationship to the city-region, their physical layout, their social composition and the design of the private sphere. The cases examined confirm that geographical context does not dramatically influence the lifestyle in these neighborhoods, a finding that confirms the concept of the network system based on a web of infrastructures and locales; (2) A geographical perspective of neighborhood spread in the city-region, aiming to understand the pattern of development and to assess its influence on the structure of the urban region. The geographical spread of neighborhoods supports the idea that the urban region is still organized in a "tree shape" as a hierarchical system that preserves economic and political differences among the cities in the metropolitan area.

This analytical approach juxtaposing the socio-spatial and geographical assists in the study of the phenomena itself and the daily life in these neighborhoods as a means of characterizing this prototype of development and assessing its impact on the ongoing development of the city-region. Furthermore, focusing on the scale of the neighborhoods suggests that subject making is crucial in examining the way the city-region is lived and developed (Jarvis, 2007; Purcell, 2007; Roy, 2009; Turok, 2009). Thus, the goals of this analysis are twofold: first, to better understand the process of production of these neighborhoods, including where and who initiated their construction, and to examine their physicality and the lifestyle they offer; second, to map the spread of these neighborhoods in the metropolitan area as a means of identifying patterns of development (i.e. equal/uneven dispersal in the core/periphery of the metropolitan area).

To achieve these goals, two key sources of data were employed in this analysis: first, data were collected through a micro socio-spatial analysis of the neighborhoods, with a focus on "how do the neighborhoods work?" to assess their physical structure and the daily life of their residents. Since the scope of the phenomenon is vast and not all 70 neighborhoods could be assessed, approximately 10 neighborhoods in the metropolitan area that followed the planning-design prototype were visited, and two were selected for the purpose of the microanalysis. The two neighborhoods selected were developed in the 1990s and are located in two distinct geographical edges of the metropolitan area (west and east): the Tel-Baruch North neighborhood in the northern area of Tel Aviv-Jaffa (west) and the Hashimshoni neighborhood in Modi'in, a new city located between Tel Aviv and Jerusalem (east).

These cases are similar in the following three important aspects: *Governance*: both neighborhoods illustrate the prevailing importance of public-sector planning in Israel on the national scale (i.e. Modi'in) and on the municipal scale (i.e. Tel Aviv). *Audience*: both environments are planned to accommodate a homogenous population of families with children. *Planning rationale*: the planning principles and spatial configuration of both neighborhoods present an antithesis to the public housing of the 1950s and 1960s. Despite the similarities mentioned above, and although both neighborhoods are located in the same city-region and were established around the same time period, they differ from one another in the following three key aspects. *Location*: the Hashimshoni neighborhood in Modi'in is

located at the edge of the metropolitan region, near the West Bank, whereas the Tel-Baruch North neighborhood in Tel Aviv is located at the core of the metropolitan area. *Land value*: the land value of the Tel-Baruch North neighborhood is approximately 66% greater than the land value of the Hashimshoni neighborhood, primarily because the area of Tel Aviv is more expensive than Modi'in.[1] *Image*: the Hashimshoni neighborhood, in addition to the rest of Modi'in, is often perceived as a dormitory living environment, whereas Tel-Baruch North is perceived as an upscale, expensive neighborhood of Tel Aviv.

The focus of the analysis is on the physical layout of these neighborhoods in two different cities, the daily routines of the residents, and the design of the private sphere. The premise was that although these two case studies are located in distinct contexts in the metropolitan area, they share similar socio-spatial characteristics (e.g. socioeconomic profile, living conditions, physical layout and amenities) and offer similar lifestyles at the neighborhood scale and at the level of the residential building.

The data were gathered using qualitative methods and include numerous on-site hours and participant observations, architectural analyses of residential units and in-depth interviews with residents (all families with children) conducted in the residents' homes (42 in total). The ages of the interviewees ranged from late 20s to early 50s, and the number of children per household ranged from one to four. The interviews lasted 45–90 minutes, and residents were asked about their activity patterns (in the home, neighborhood, city and region) and their sense of belonging. In addition, the residents were asked to complete a timetable describing a typical week in their lives and to take photographs of their homes. Through the interviews, we mapped the practices and routines of the residents of these neighborhoods. Though we acknowledge diversity, repetitive patterns were observed and showed that the geographical location (Modi'in or Tel Aviv) does not really affect the living practices in these neighborhoods.

In adition, further data were collected from archival documents, official maps and planning documents from the 1990s onward, with a focus on "where are these neighborhoods being built in the metropolitan area?" to assess and map their spread. The premise was that the locations and development of the new neighborhoods gradually alter the existing hierarchies between the core (i.e. Tel Aviv City) and the surrounding cities in the metropolitan area, thus supporting the concept of a network system.

Though this type of qualitative analysis has limits in terms of scope and generalization and not all 70 neighborhoods could be assessed in detail, the two cases examined confirm that geographical context does not dramatically influence the lifestyle in these neighborhoods. Furthermore, the assessment at the household level (what does it means to live in these neighborhoods?) and the interviews with planners (how and why were they built?) provide a powerful lens through which to explore the "constitutive links between social reproduction and city-regionalism" (Jarvis, 2007: 207). However, it is the juxtaposition of the socio-spatial analysis (i.e. what and how) and geographical mapping (i.e. where) of the neighborhoods that provides a complex reading of contemporary regional development.

Indeed, the juxtaposition of the micro socio-spatial analysis and the geographical macro analysis supports the argument that the city-region should *not* be viewed as either a "network" or a "hierarchical" entity but rather as an entity in which competing concepts influence its *process* of development. In the case of Tel Aviv Metropolitan Area, the socio-spatial analysis of the new neighborhoods reveals similarities between the neighborhoods and supports the idea that the city-region could be perceived as a network system that offers a similar lifestyle in varied locales. However, the geographical spread of the neighborhoods supports the idea that the urban region is still organized in a "tree shape," as a hierarchical system that preserves economic and political differences among the cities in the metropolitan

area. As a whole, this juxtaposed reading of the city-region suggests the following: first, much less has changed than claimed in the spatial development of the city-region, as neighborhood design emphasizes stereotypical suburban, children-oriented qualities; what has changed are the concepts through which the city-region is being analyzed and represented, with primacy given to the contemporary concepts of "networks" and "flows." Second, despite the prevailing view that city-regions develop at the expense of the nation-state (Jonas, 2013), contemporary urbanization processes cannot be detached from the geographical, political and economic contexts of the nation-state.

Though different in some aspects, the case of Tel Aviv Metropolitan Area is not unique. The challenge of better understanding city-regions can be observed in the growing body of literature that has searched for new methods to examine them critically. This epistemological search can be observed in the United States, Belgium (Hanssens et al., 2014), Germany (Harrison, 2013; Harrison and Growe, 2014) and Europe as a whole (Nilsson et al., 2013), where the contestations between concepts have been explored. This contestation is also reflected in the naming and terminology associated with the development of city-regions. Robert Lang, who coined the phrase "edgeless cities," identified approximately 40 additional terms, including exopolis, technoburb and edge city, to portray contemporary spatial developments in the city-region (Lang, 2003: 31). This terminological ambiguity, which is often encapsulated as "post-suburbia" (Kling et al., 1995; Phelps et al., 2010), reflects the fundamental obscurity of the spatial development of city-regions. Hence, although focused on the Israeli context, the questions addressed in this paper extend beyond the case of Tel Aviv and can be considered in the context of the "regional question" and the ongoing search for its contemporary representation (Soja, 2015: 373).

In addressing these ideas, the paper starts by framing the key theoretical ideas and concepts used to characterize the processes of regional urbanization. Following this discussion, the paper analyzes the spatial development of the Tel Aviv Metropolitan Area as follows: (1) by exploring the socio-spatial characteristics of two new neighborhoods and (2) by mapping the geographical spread of new neighborhoods across the city-region. These two layers of analysis enable the understanding of the constitutive links and competing ideas that construct and socially reproduce city-regionalism. The paper ends by reflecting on the questions of the representation of city-regions and by advancing our theoretical understanding of the construction of city-regions.

The challenge of city-region representation: networks and trees

In his seminal paper, "A City is not a Tree," architect Christopher Alexander (1965) defines the differences between cities that have grown organically for centuries (i.e. "natural cities") and contemporary cities, or parts of cities, that have been created by planners and designers (i.e. "artificial cities"). Alexander's hypothesis is that attempts to create new cities have not been successful and are missing central socio-spatial ingredients. The reason for this deficiency, he claims, lies in the linear and hierarchical tree-shaped structure of the artificial city, whereas natural cities are arranged in a semi-lattice structure. Alexander's critique of rational planning was adopted and elaborated by other planning and geography scholars (Hillier, 2008; Neuman, 2005; Portugali, 1999), who suggested considering the city, the built urban environment and, later, the city-region as complex entities, constantly emerging processes, and socio-spatial networks. As Patsy Healey argues, "It is widely recognized that the development of urban areas, understood in socioeconomic and environmental terms, cannot be 'planned' by government action in a linear way, from intention to plan, to action, to outcome as planned" (2007: 2). This conceptual shift, particularly the emphasis that "socio-

economic and environmental activities [that] make use of the physical fabric of urban areas […] are often difficult to imagine in advance, let alone predict" (Ibid: 23), dramatically affected geography, planning and architectural theory and practice by posing a challenge to reconciling top-down planning instincts with bottom-up forces (Batty and Marshall, 2016).

However, this approach, which emerged in the context of the technological revolution of the 1970s and the liberalization of international trade and investment (Castells, 1996; Urry, 2004), has also contributed to the frequent use of the term "network" to describe how people, ideas, and objects flow between nodes in a globalizing world (Clarke, 2009). Currently, the concept of the "network" is viewed as the organizing logic of contemporary global environments that also influences the more local development practices of city-regions. The tyranny of the "network," as a concept used to describe the contemporary spatial dynamic of city-regions, has also influenced its representation and analysis, reinforcing the belief that we live in a complex network society that provides the power to choose our lifestyles (Giddens, 1991; Slater, 1997). The contemporary conceptualization of the city-region as a network system is associated with two related discussions in the study of regions: (1) the polycentric approach and (2) the relational approach to spatial thinking and analysis of city-regions.

1. The city-region as a network coincides with the evolving discussion on polycentric urban regions (Burger et al., 2014; Davoudi, 2003) or polynucleated metropolitan regions (Dieleman and Faludi, 1998). The polycentric model comprises multiple centers that distinguish it from the monocentric model, which includes a sharp divide between the urban core and the suburban hinterland (Kloosterman and Musterd, 2001). However, this distinction is quite broad, and in reality, regions do not follow a particular type of spatial organization: whereas some regions are distinctively monocentric or polycentric, most are a compilation of the two (Arribas-Bel and Sanz-Gracia, 2014; Burger and Meijers, 2012; Burger et al., 2014). Given this diversity, there is an ongoing debate about whether the emerging regional patterns are polycentric and structured or, alternatively, more scattered and chaotic (Garcia-López and Muñiz, 2010; Gordon and Richardson, 1996; Vasanen, 2012). However, in either case, the historical cores and main commercial nucleus are described as losing their dominance as new concentrations of employment, retail and leisure develop outside the metropolitan core (Champion, 2001; Dieleman and Faludi, 1998). These new polycentric patterns are considered diverse and creative entities with less congestion and more locational freedom than monocentric cities of a similar size (Batten, 1995).

2. The polycentric patterns of city-regions have contributed to the influx of terminology and lexicons to describe the development of the city-region, including territory, place, scale, and network (Jessop et al., 2008). The use in these different terms challenges the bounded, static notions of space and place by advocating a relational approach to spatial thinking (Jonas, 2012). That is, every locale should be perceived as a part of a larger whole and its place in the network system. Advocates of this approach argue for the need to recognize the polymorphous organization of socio-spatial relations in multiple forms and places (Jessop et al., 2008). The emergence of this relational thinking also brought to the fore the idea of the city-region as a sphere in which all of these ideas come together as a fluid contingent social construction (Jones and MacLeod, 2004; Paasi, 2009). Studies that focused on activity patterns and social interactions have supported these arguments and have shown that these interactions are no longer confined to core-periphery

trajectories or traditional city centers (Kling et al., 1995). Furthermore, with the development of portable media devices (Bull, 2000) and personal communication devices (Campbell and Park, 2008), daily activities have become part of the relational construction of place.

This conceptualization of the city-region as a network system has influenced city-region analyses and representations, which tend to focus on economic competitiveness, efficiency and governance. It has been suggested that analyses of urban regions tend to illustrate the environment as a web of networked infrastructures that continuously carry deterritorialized materials, such as goods, capital and information (Graham and Marvin, 2001; Kaika and Swyngedouw, 2000; Mitchell, 2003). Furthermore, there is no evidence that transport and communication networks challenge political and territorial hierarchies; to the contrary, they reflect power and territorialism (Dupuy, 2005: 121). In other words, the relational construction of the city-region does not occur in a void; rather, it is embedded in a socio-political context. As such, contemporary metropolitan regionalist projects are extremely heterogeneous, both institutionally and politically, and are permeated by significant internal conflicts and contradictions (Brenner, 2002: 4).[2] The diversity of city-regionalism emerges from various attempts to re-couple geoeconomic considerations (e.g. increasing state competitiveness) with geopolitical ones (e.g. responding to external threats to state space) (Jonas, 2013). In other words, the particularities of a political context are major factors in analyzing and representing spatial development in city-regions. Thus, contextual factors, and particularly the state's role, must be part of the analysis, especially in a highly centralized and hierarchical contexts.

Above all, critical thinkers argue that the concept of the network system tends to elide the terrain of subject making and is theoretically disconnected from crucial questions about how space is lived and negotiated (Jarvis, 2007; Purcell, 2007; Roy, 2009; Turok, 2009). Scholars suggest that the locale is still a significant and important entity in the analysis of city-regions. Although people are living in the context of hyper-communication, mobility and globalization, they still actively develop a sense of belonging and attachment to their place of residence (Myers, 2005; Savage et al., 2005). According to this approach, which considers the neighborhood unit a valid spatial organization that serves as a mediator between the physical environment and the social community, the locale remains an arena for shaping one's identity and social positioning (Kearns and Parkinson, 2001). What has changed is its configuration and relationship with the city-region. In its essence, the locale is conceived as a place within the network infrastructure where one can search for self-identity (Myers, 2005) and live and act amidst people similar to oneself (Marcuse and Van Kempen, 2000). However, with the accelerating search for self-identity, the traditional definition of community as being attached to one place is considered to be eroding (Mitchell, 1996; Wellman, 2001), and daily life in the contemporary digital age is conceived to be based on individualized networks that operate in multiple, loosely connected, partial communities (Wellman, 2001). Thus, there are significant differences in how people conceive of their living environment as territorial units, even within the same city (Schnell et al., 2005).

In summary, city-regions are changing worldwide under the dramatic influences of competing concepts, and the hierarchical system and network system are not mutually exclusive concepts. Thus, instead of seeing city-regions as either/or, it is more helpful to view the development of city-regions as processual, examining how different concepts are juxtaposed and how this juxtaposition shapes the spatial manifestation and the production of the space of the city-region (Figure 1). These ideas are examined in the following sections, with a focus on the *Tel Aviv Metropolitan Area*.
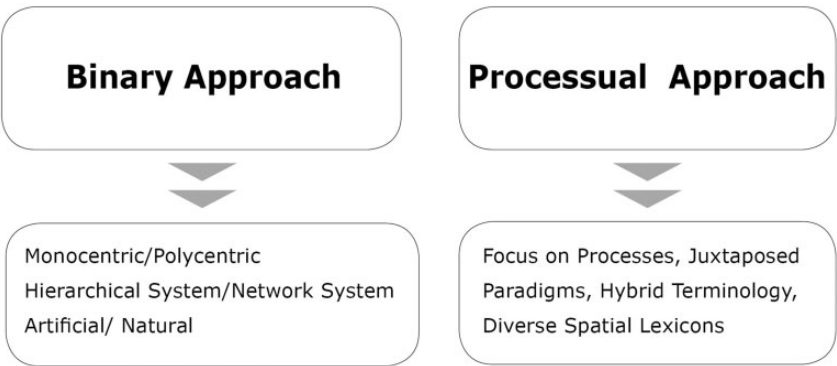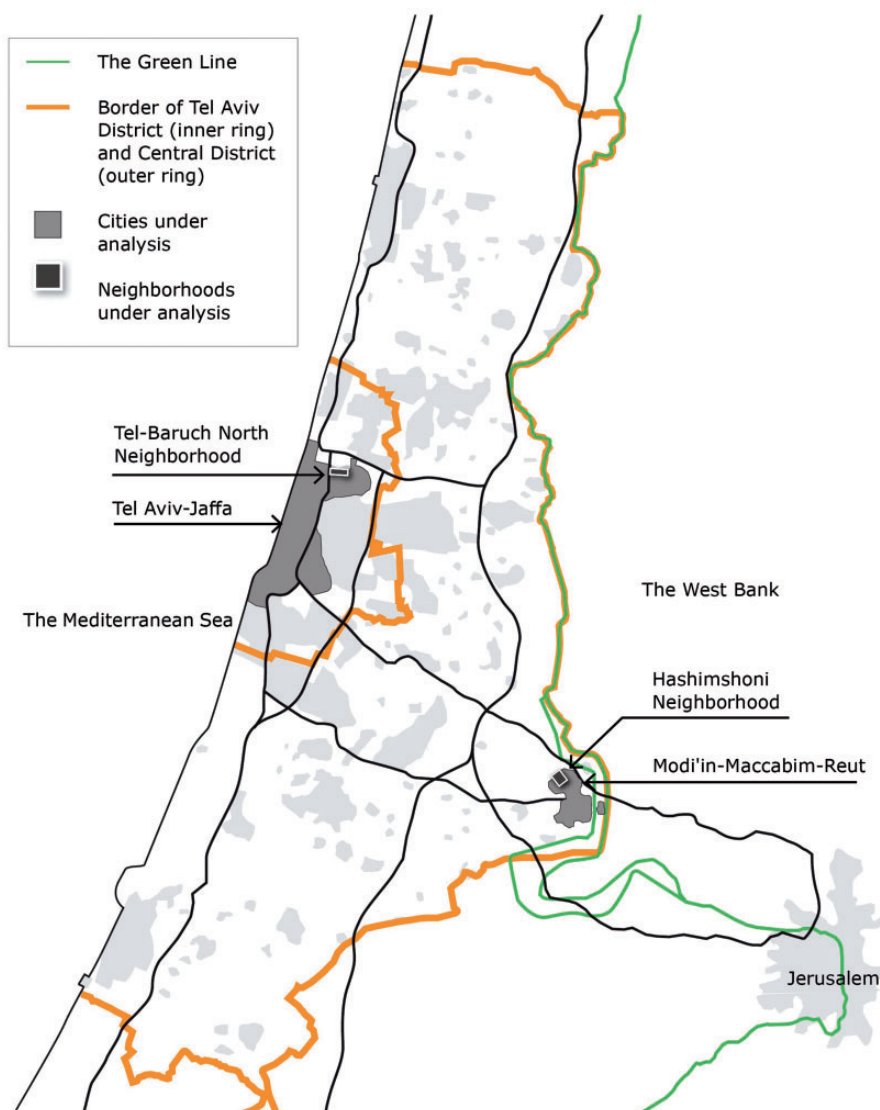
Figure 1. Representing the city-region: the binary and processual approaches.

A network system or a hierarchical system? Assessing the spatial development of the Tel Aviv Metropolitan Area

The Tel Aviv Metropolitan Area comprises two administrative districts: the dense inner ring of the Tel Aviv District, which is closer to the metropolitan center and in which cities merge into one another to create a continuous urban fabric, and the outer, more dispersed ring of the Central District, which is closer to the Green Line[4] and the West Bank and in which cities are interconnected through a network of highways and railroads (Figure 2). Since the 1990s, the Tel Aviv Metropolitan Area has experienced significant suburbanization via the expansion of many small cities and rural communities (Israel and Frenkel, 2015), resulting in the development of numerous new neighborhoods across the city-region. The map in Figure 3 shows the geographical spread of over 70 newly built neighborhoods constructed from 1990 onwards. Most of these new neighborhoods are located in the peripheries of cities, where undeveloped land is available. The sites are often treated as tabula rasa, and the neighborhoods are developed as standalone physical entities, with minimal connectivity to the existing city. In other words, although officially constructed as part of existing cities, the neighborhoods are, in fact, spatially and functionally distinct from the city center, favoring accessibility to highways and major roads that connect them to the region. New neighborhoods of different cities also tend to be located in proximity to one another, thereby creating clusters of new developments. For example, the Kfar Ganim Gimel neighborhood in the city of Petah Tikva, the Ramat Hadar neighborhood in the city of Giv'at Shmuel, and the Pisgat Ono neighborhood in the city of Kiryat Ono are located within short distances (~500 meters aerial distance) of one another. Similar clusters can be identified, for example, in the cities of Yehud and Or Yehuda; Holon and Rishon LeZion; and Tel Aviv and Ramat Hasharon. These clusters are an outcome of undeveloped land and the need to locate these environments in proximity to major roads. Figure 4 demonstrates that despite their physical proximity, these developments are planned individually and separately, as evident from the entrances to the neighborhoods.

The following first presents a socio-spatial perspective addressing the characteristics of the neighborhoods, their relationship to the city-region, their physical layout, their social composition and the design of the private sphere, followed by a geographical perspective on neighborhood spread in the city-region.

The Green Line

Border of Tel Aviv
District (inner ring)
and Central District
(outer ring)

Cities under
analysis

Neighborhoods
under analysis

Tel-Baruch North
Neighborhood

Tel Aviv-Jaffa

The Mediterranean Sea

The West Bank

Hashimshoni
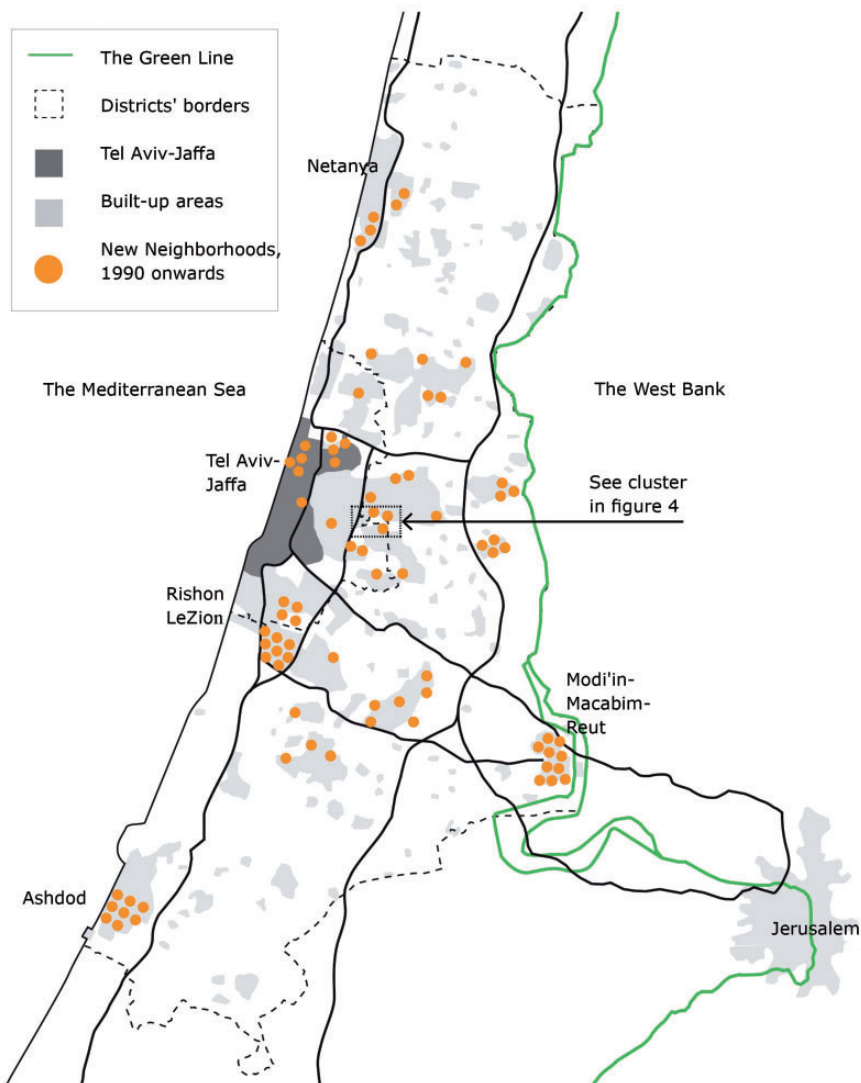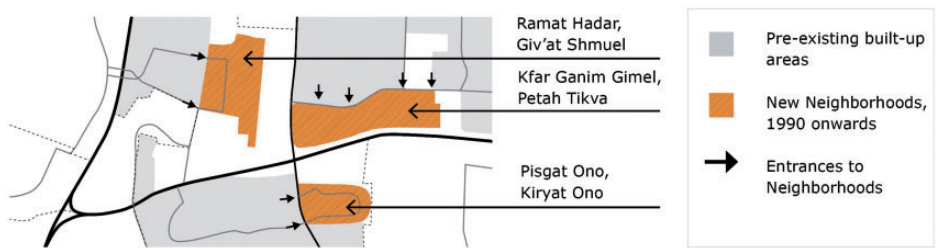Neighborhood

Modi'in-Maccabim-Reut

Jerusalem

Figure 2. Tel Aviv Metropolitan Area (Inner Ring, Tel Aviv District/Outer ring, Central District) and location of neighborhoods under analysis.

A socio-spatial perspective: The city-region as a network of similar locales

The focal neighborhoods, which were constructed over approximately ten years beginning in the late 1990s, are located in different places in the city-region. Tel-Baruch North is located at the core of the metropolitan area of Tel Aviv, which remains the region's most central city, and Hashimshoni is located at the edge of the metropolitan region, near the West Bank[3] and slightly west of the Green Line. Tel-Baruch North is one of several new neighborhoods in the northern area of Tel Aviv. It was planned on undeveloped, publicly owned

Figure 3. New neighborhoods in Tel Aviv Metropolitan Area, 1990 onwards (more than 70 in total). Map based on govmap.gov.il.

Figure 4. A cluster of new neighborhoods: Kfar Ganim Gimel in the city of Petah Tikva, Ramat Hadar in the city of Giv'at Shmuel, and Pisgat Ono in the city of Kiryat Ono. Despite their physical proximity, these developments are planned individually and separately, as evident from their entrances.

land. A planning team from the municipality guided the planning process, which was out-sourced to private planning firms. The construction of Hashimshoni cannot be analyzed separately from the construction of Modi'in, a city that was built in the 1990s just west of the Green Line, between Tel Aviv and Jerusalem. The city was built on public land reserves, and the planning process was conducted in close coordination with the Ministry of Housing and Construction. Located at opposite ends of the city-region, these two neighborhoods are examples of the contemporary prototype of residential environments (Table 1 and Figure 5).

Table 1 summarizes some of the statistics of both neighborhoods. In general, the per-centage of ownership is greater than 70% and the average household size is 3.9 in Hashimshoni, which is greater than the average size in Tel-Baruch North (3.1). Households with children aged 17 years and younger represent 68% of households in Hashimshoni and 44% in Tel-Baruch North. This statistic ostensibly indicates that the population in Hashimshoni is substantially younger, but since Tel-Baruch North is incor-porated into a joint statistical area with an adjacent neighborhood, the raw data may be misleading, and numerous visits and interviews indicate that the neighborhood is predom-inantly inhabited by families with children. In both locales, many residents work outside their city, including two-thirds of the residents of Hashimshoni and one-third of the resi-dents of Tel-Baruch North. These data and the percentages of residents that use a private car for work, 68.7 in Hashimshoni and 86.1 in Tel-Baruch North, confirm that these neigh-borhoods are based on a suburban lifestyle. However, neighborhood socioeconomic status differs: Hashimshoni is ranked 13–14 (of 20), and Tel-Baruch North is ranked 20 (the highest). This ranking reflects a combination of basic characteristics, such as residents' financial resources, housing characteristics (e.g. density and quality), ownership of home appliances (e.g. air conditioners, dishwashers, and computers), motorization level, educa-tion, employment and unemployment profiles, and demographic characteristics.

In the following section, we present four key features of these neighborhoods and the manner in which they are manifested in each locale: (1) neighborhoods designed as part of the regional network; (2) the spatial structure of the neighborhood as a self-sufficient locale with all amenities needed for daily life; (3) the target audience, a homogenous "Typical Israeli Family"; (4) a focus on the family unit and on supporting its needs through an architectural design that reveals the lifestyle residents adopt in the neighborhoods.

(1) *Neighborhoods as Part of the Regional Network, with an Emphasis on Distinct Locations and High Connectivity*. The Tel-Baruch North neighborhood is situated on Tel Aviv's northern edge (Figure 2) between Ayalon Highway, an inter-city highway to the west, which crosses the metropolitan area from south to north, and Bnei Ephraim Road, a major artery to the west, which crosses north Tel Aviv. The traffic arteries simultaneously connect the neighborhood to national and regional highways and physically disconnect it from adjacent neighborhoods. Accordingly, most residents highlight the neighborhood's location as one of its main advantages, emphasizing its easy connection to the entire urban region, as they *"reach Ayalon highway pretty fast and then to wherever you need to go"* (resident, male, aged 52, Tel Aviv, June 2011). Residents primarily use their private cars when traveling outside the locale.[5] Their travel behavior in the region is based on star-shaped, target-ori-ented trajectories; residents describe traveling to their destinations and back without stops or detours. In addition to daily trips to work, journeys are made to destinations that include shopping and entertainment centers, as well as to metropolitan parks. All are enclosed, well defined, and located in various nearby cities. They are viewed as destinations of their own merit that are disconnected from their urban setting: *"We have many malls in the area, the Ayalon Mall [in the adjacent city of Ramat Gan], the Seven Stars Mall [in the city of Herzliya], Ramat Aviv Mall [in Tel Aviv]... everyone here has cars and drives, and it's*

Table 1. Descriptive statistics of the neighborhoods and metropolitan area.

	Israel	Tel Aviv Metropolitan Area	Tel-Baruch North neighborhood, Tel Aviv-Jaffa[a]	Hashimshoni neighborhood, Modi'in-Maccabim-Re'ut[b]
Population	8,643,400	3,785,000	~5000 (out of 432,900 in Tel Aviv-Jaffa)	~15,000 (out of 88,700 in Modi'in-Maccabim-Re'ut)
Population density (per sq. km)	370	2245	8354 (data for Tel Aviv as a whole)	1836 (data for Modi'in as a whole)
Percentage of homeownership	68.8	64.7	84	70.3 (southern part) 76.6 (northern part)
Neighborhood socio-economic status (out of 20)	–	–	20	14 (southern part) 13 (northern part)
Average size of household	3.2	2.9	3.1	3.9 (southern part) 3.3 (northern part)
Percentage of households with children 17 and under	43.8	39.2	44.6	79.2 (southern part) 68.5 (northern part)
Percentage of households with at least one car	61.8	66.4	97.3	90.4 (southern part) 93.1 (northern part)
Av. work hours per week (men)	45.2	45.5	48.1	48.2 (southern part) 49.7 (northern part)
Av. work hours per week (women)	35.5	36.2	38.2	37.2 (southern part) 38.9 (northern part)
Percentage of residents who worked outside their town of residence	52	58.9	38.5	70.1 (southern part) 77.1 (northern part)
Percentage of residents who used private car for transport to work	51.9	54.8	86.1	68.7 (southern part) 70.9 (northern part)

Source: Central Bureau of Statistics (2008, 2015a, 2015b, 2015c, 2015d, 2015e), National Social Security Agency (2013) and Israeli Employment Service (2017).
[a]The statistical area for Tel-Baruch North neighborhood includes the older neighborhood Tel-Baruch, to its south.
[b]Hashimshoni neighborhood is divided into two statistical areas, which will be called here the "northern area" and "southern area".
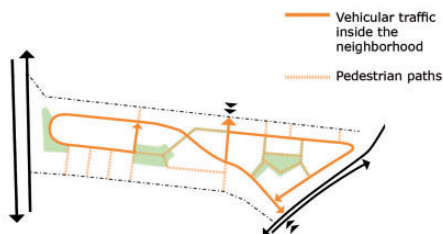
Tel-Baruch North, Tel Aviv

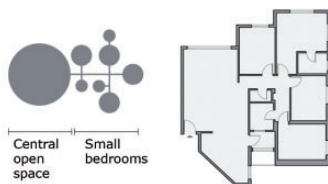Initiated by the municipality; constructed on publicly-owned land.
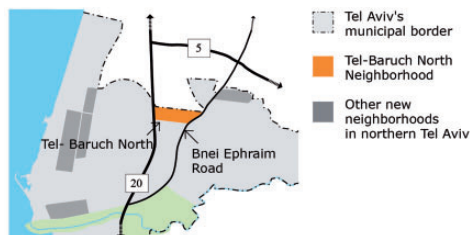
Location of the neighborhood on Tel Aviv's northern edge, between highway n. 20 and Bnei Ephraim Road.

Spatial Structure: a concentration of public amenities and open spaces in the neighborhood's center.
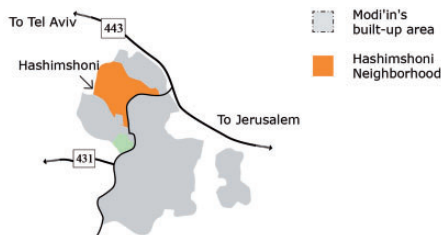
Connectivity: Vehicular traffic inside the neighborhood based on two loop, with one major entrance.
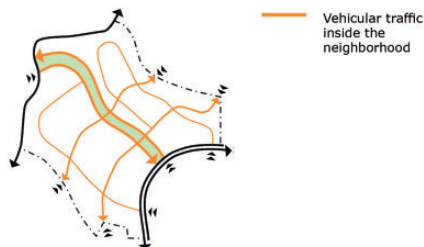
Hashimshoni, Modi'in

Initiated by the central goverment; constructed on publicly-owned land.

Location of the neighborhood in north-west Modi'in, with good access to highways n. 443 and 431.

Spatial Structure: a central boulevard with public amenities and open spaces.

Connectivity: Numerous entrances to the neighborhood, especially from the east, north and south.

The Private Sphere: Tree-shaped layout, with a central open space (living room, dining area, kitchen) and a corridor that leads to small bedrooms
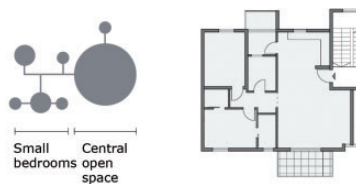
Figure 5. Analysis of Tel-Baruch North neighborhood, Tel Aviv, Hashimshoni neighborhood, Modi'in.

really ten minutes' drive, half an hour tops" (resident, female, aged 39, Tel Aviv). Residents see themselves as unrestricted and mobile, as they move between nodes in the regional network; this movement is described in temporal dimensions (i.e. minutes or hours) rather than in distance (i.e. kilometers).

Similarly, the Hashimshoni neighborhood is located near the main traffic artery of Modi'in and has good access to highway 443, which connects the city to Jerusalem and Tel Aviv, and highway 431, which leads to a coastal area. This configuration follows the initial understanding of Modi'in as a satellite city between Tel Aviv and Jerusalem "*at an intersection of main traffic axes in north-south and east-west directions, [which] enables it to offer high quality-of-life housing with high accessibility to employment markets*" (Ministry of Housing and Construction, Department of Urban Planning, 1990: 12). Interviewees own at least one car per household,[6] and driving is a frequent form of travel. The neighborhood's access to national highways is described as a major factor driving the decision to move there: "*The exit from the city was important to us because we used to take [highway] 443, and it was important to us not to waste time in traffic inside the cit*y" (resident, female, aged 35, Modi'in, November 2010). As in Tel-Baruch North, residents use shopping and entertainment centers that are enclosed and well defined either within the city or in ex-urban locations. Other, more infrequent trips are made to specific destinations in Tel Aviv or Jerusalem (e.g. to a park or zoo). Traveling to central Tel Aviv – an urban area that is not enclosed – is considered so unique that some residents compared it to making a trip abroad: "*This is something that requires special preparation. It's not spontaneous. Sometimes, we take half a day off work and go to Tel Aviv, hang around there, just like going on a trip abroad*" (resident, male, aged 30+, Modi'in, February 2011). The trips across the region are linear, target-oriented and measured in terms of time rather than distance.

(2) *The Spatial Structure of the Neighborhood as a Self-Sufficient Locale.* The Tel-Baruch North neighborhood is relatively compact, with one major gateway for vehicular traffic (from the east). Its spatial configuration is based on two interconnected loops that divide the neighborhood into two parts. The neighborhood was conceived and planned as a self-sufficient locale, and the geographic center of the neighborhood consists of a shopping center (which includes a post office, a bank and a medical clinic), a public park, and an elementary school. Residents emphasize the neighborhood's compactness, its network of pedestrian paths, and the availability of different amenities and services as contributing to a sense of comfort because "*everything is so close, so easy*" (resident, female, aged 45, Tel Aviv, June 2011). The locale is viewed as compact both spatially and socially: "*they call our neighborhood Kibbutz Tel-Baruch North because everyone knows each other… and [you] constantly meet people you know*" (resident, female, aged 46, Tel Aviv, June 2011). This dynamic is also reflected in descriptions of daily activities. Despite making frequent trips to destinations outside the neighborhood, residents describe their routines in the urban region briefly and concisely but recount their routines at the locale in a detailed and active manner (e.g. getting up, getting dressed, eating, taking the kids somewhere bringing them back, taking a bath, and reading a story). This difference, which appeared in interviews and in the timetables depicting a typical week, reveals the juxtaposed (yet different) roles of the region and the locale in the residents' daily lives. Furthermore, both planners and residents perceive the neighborhood as conceptually disconnected from central Tel Aviv. According to the planners, the new neighborhood intentionally does not reproduce the urban characteristics of central Tel Aviv (interview, May 2011). According to the residents, their living environment is completely different from that of central Tel Aviv, with "*no parking problems, no noise, the apartments are spacious and new […] it's not hardcore Tel Aviv*" (resident, male, aged 52, Tel Aviv, June 2011). This division has a gender aspect. In most families

interviewed, one parent (typically the father) works away from home in a steady job with regular and long hours. That parent is less involved in activities at the locale, whereas the spouse (typically the mother) is responsible for the household and works in a job affording some flexibility (or, in some cases, is not formally employed).

Likewise, the spatial organization of the Hashimshoni neighborhood is clear and well defined. A central boulevard functions as the neighborhood's main traffic artery and simultaneously contains public amenities, green open spaces and a commercial center. The residential stock comprises apartment buildings with similar heights (three floors, on average), layouts (two or three apartments per floor) and materials (stone cladding and light-colored plaster). The neighborhood is not as compact as Tel-Baruch North, and a mild topography impedes pedestrian travel; however, it is well connected to adjacent neighborhoods and is perceived by residents as an integral part of the city as a whole. The city is viewed as one locale whose relatively small size strengthens residents' access to services. Unlike the star-shaped travel pattern in the region, travel patterns within the neighborhood and city are more complex and include multiple stops and detours. Similarly, residents elaborate when describing activities in the immediate environment (such as shopping, meeting friends, and running errands), while briefly describing activities in the urban region (such as work); for example, "*I go to work, and at noon, I take the kids from the kindergarten. Then, in the afternoon, there are all sorts of activities. Once a week, the oldest has a class; sometimes he has friends over, shopping, neighbors, friends. In the summer, we go to the park*" (resident, female, aged 30+, Modi'in, February 2011). This pattern reflects a clear gender division, as one couple describes: "*For me [the man], it's easy... I start around six, drive to work at seven, come back at six, and after that, I'm home [laughs]. That's my day*" (resident, male, aged 30, Modi'in, April 2011); "*For me [the woman], it's flexible. If I work in the morning, then I get up, my mother watches over her [the baby] and I work for an hour or two... and then I come back home, cook, clean, hang around with her, all the day is free until the evening, when I work again*" (resident, female, aged 30, Modi'in, April 2011).

(3) *Typical Israeli Family as Target Audience*. The Tel-Baruch North neighborhood includes many families with children and was planned as an appropriate locale for the "*typical Israeli family... We all live here and we all know what the living patterns within the family are, and everybody knows how people are raising children*" (Baruch Yoskovich, planner, interview, May 2011). The homogeneity is perceived as an attribute inherent to the locale. As one resident explains, "*Everyone has a very similar daily routine. Nobody here tries to reinvent the wheel. You are at a certain stage in your life, raising children, and everybody is the same*" (resident, female, aged 39, Tel Aviv, June 2011). In addition to the distinction from central Tel Aviv, residents also differentiate the locale from the urban region as a whole. The region is associated with the individual and is used primarily for work or out-of-the-ordinary leisure activities, whereas the locale is associated primarily with the children. Consequently, the children are considered the neighborhood's social glue. They make "*the initial connection because they meet at school... and then the parents follow*" (resident, female, aged 46, Tel Aviv, June 2011). Residents describe social ties as a source of mutual support within the locale, particularly between mothers. One resident even stated, "*it's very hard to get post-partum depression here because you are always with people*" (resident, female, aged 39, Tel Aviv, June 2011).

As in Tel-Baruch North, residents clearly distinguish between the role and meaning of the region and those of the locale. As one resident states, "*Here, in my opinion, most of the things revolve around the children. There is no thinking about the adults as individuals with wills but merely as parents. When you go to Tel Aviv, you're going for yourself; I think that's the main difference*" (resident, female, aged 30+, Modi'in, February 2011). The entire city was

designated by planners to accommodate "*Mr. and Ms. Israeli with . . . a small child and another one on the way*" (interview with arch. Ami Shena'ar, the former chief architect of the Ministry of Housing and Construction, August 2010). The association of the immediate environment with children can lead to some dissatisfaction. Some Hashimshoni residents stress that they would not have chosen to live in Modi'in if they did not have children, reinforcing the association between the physical place and a certain life stage. One interviewee commented that the city is the best place for raising children but added that it does not suit him and his wife. His remarks indicate a feeling of self-sacrifice, made by both partners, for their children: "*I protect my children, but on the other hand, me and her [his wife] are displeased, looking out only for our children, and not ourselves*" (resident, male, aged 30+, Modi'in, March 2011). Another resident concisely describes the choice to live in Modi'in as a "*wonderful compromise*" (resident, male, aged 35, Modi'in, November 2010). This view is echoed in the words of yet another resident: "*In the first two years, we were disappointed because this city becomes dead at seven o'clock and there isn't a living soul outside, not even a dog. In addition, it's a little bit depressing. However, we got used to it, and the kids are having lots of fun, so you know, we got used to the quietness, we got used to cooking at home, we got used to it*" (resident, female, aged 30+, Modi'in, March 2011).

(4) *The Central Role of the Family and Unit Design.* As noted, repetitive layouts of apartments can suggest limited choice and similar living opportunities. An architectural analysis of the residential units in Tel-Baruch North neighborhood reveals a typical layout that includes (a) a large open space that consists of a living room, a dining area and a kitchen, with minimal internal divisions; (b) a corridor that leads to small bedrooms; and (c) an outdoor private area, such as a small yard or a balcony. This layout creates a sharp distinction and clear hierarchy between the shared space, used by the entire family, and the individual bedrooms. Residents describe the shared open space as the locus of the family's everyday life: "Our entire life occurs in this space. . . we eat, watch television, host, play. . . I work here. Everything" (resident, female, aged 40, Tel Aviv, July 2011). This open space is perceived as a place that simultaneously accommodates different household members and different activities. The location of the activities within the space is flexible, as residents may work in the dining area or eat, play or sleep in the living room. As expected, residents use electronic and telecommunication devices in their daily lives, and some of them work from home using laptops and computers. Some residents have as many as two television sets and four computers in the house. Therefore, electronic communication is a significant part of their lives. However, these devices act as an additional layer and do not substitute for face-to-face encounters and local friendships.
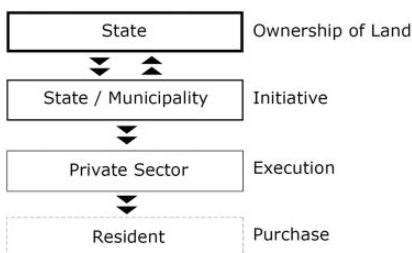
An architectural analysis of the residential units in Hashimshoni neighborhood reveals a similar layout to that found in Tel-Baruch North. This tree-shaped layout creates a clear hierarchy and distinction between the shared open space (i.e. the living room, the dining area and the kitchen) and the small private bedrooms. Residents testified that the home is a central component of their daily lives, which revolve around "*home-children-work*" (resident, female, aged 40+, Modi'in, February 2011; resident, female, aged 36, Modi'in, January 2011). Within the home, the open space is used by all the household members for various activities. As one resident described the role of this space for her family, "*The living room is a major focal point for everyone. In the morning, we meet here, and we finish the day here. . . we play, talk, watch television, run, jump*" (resident, female, aged 35, Modi'in, December 2010). The private bedrooms are used during the night or when friends visit. Residents use electronic and telecommunication devices in the course of their daily lives. However, despite the constant use of cellular phones and social networks, they are often used for planning actual

face-to-face encounters. As one resident explains, "*I don't like sitting all day and chatting on the phone. We talk and make plans [to meet] and that's all*" (resident, female, aged 30+, Modi'in, March 2011). Another resident mentioned Facebook as a means of renewing old friendships but describes these online relationships as casual and "*not too obliging*" (resident, female, aged 30+, Modi'in, February 2011).

The two neighborhoods share similar socio-spatial characteristics (Figure 6). Both neighborhoods are located near major traffic arteries on the city's edge, which enhances their distinction as autonomous units. Similar to suburban and post-suburban environments, they reveal a strong automobile dependency (Lang and Knox, 2009; Young and Keil, 2010). Private cars are the preferred mode of travel for trips in the urban region, the city and even the neighborhood (the latter occurring largely in Modi'in, but less in Tel Aviv). The region's spatial configuration presents a middle ground between the dense city center and the sprawled suburb; the housing stock comprises multiple-family apartment buildings and is organized in a cohesive, uniform urban structure, with good access to public amenities, commercial centers and open spaces. The neighborhood's target audience is the "typical Israeli family," i.e. a nuclear family of two parents with children. As daily activities occur in isolated islands that are scattered across the region (Sieverts, 2003), these new neighborhoods support a dual experience, in which the urban region is used for work or special, out-of-the-ordinary leisure activities and the locale is used for activities that are associated with the children and the nuclear family. Whereas the region is associated as the sphere of men, the locale is perceived as a sphere that is more familiar to, belongs to and is run by women.
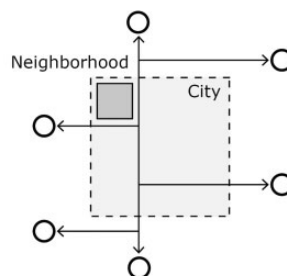

Figure 6. Shared attributes of the new neighborhoods in the Tel Aviv Metropolitan Area.

Thus, assessing the locational freedom associated with the multi-nodal region (Batten, 1995; Castells, 1996; Featherstone, 2004; Graham and Marvin, 2001; Urry, 2004), men and women perceive and use it differently. The private unit is designed as a "gendered locale" in which the living room-dining area-kitchen is used as the center of family life. Thus, although it is expected that attachment to the locale should fade, its persistence challenges the view that social ties in the digital age are loose, partial (Wellman, 2001) and detached from the immediate environment (Schnell, 2004). Furthermore, the expansion of activity patterns to the regional network is accompanied by a compression of social life into insular units, that is, either into the individual self (Albrechts and Mandelbaum, 2005; Wellman, 2001) or into well-defined locales. *In conclusion, the new neighborhoods, using Alexander's terminology, are artificial entities arranged in a tree-shaped structure based on linearity and hierarchy. Moreover, it could be argued that as a whole, the socio-spatial characteristics of the neighborhoods follow repetitive patterns, and in terms of lifestyle, living in the core of the metropolitan area does not differ significantly from living in the center*.

A geographical perspective: The city-region as a tree

Indeed, in their dispersal across the region, these neighborhoods promise similar living environments, with seemingly equal opportunities and even accessibility. Their spread and repetitive features support the idea of a non-hierarchical, dispersed network as the structuring logic of regional development. However, the neighborhoods differ from one another in the key aspect of property value, as the real estate values in Tel-Baruch North are almost twice those in Hashimshoni.[7] They also differ in terms of their image. Hashimshoni and the rest of Modi'in are often perceived as an environment for dormitory living, whereas Tel-Baruch North is perceived as an upscale, expensive, and somewhat snobbish neighborhood. Furthermore, a closer examination of the new neighborhoods' dispersal across the region reveals that the motivations for constructing neighborhoods in cities such as Tel Aviv, Ashdod and Netanya (along the shore) are different from those for constructing neighborhoods in cities such as Modi'in and El'ad (near the West Bank). In both groups of cities, the construction of new neighborhoods is part of the ongoing expansion of the Tel Aviv Metropolitan Area (Hasson and Choshen, 2003) as Tel Aviv's economic sphere of influence further spreads to the north, south and east (Razin and Ben Ami, 2011). The motivation for the development of the first group of cities along the shore could be viewed as economic and entrepreneurial, as central planning responds to these market pressures. However, in the latter group of cities, near the West Bank, the economic motivation is accompanied by an additional socio-political motivation to increase the Jewish presence in these areas (Schwartz, 2002) and to effectively erase the Green Line (Efrat, 1992). The construction of Modi'in and El'ad, together with expansions in existing towns (e.g. Rosh Ha'in) and local councils (e.g. Kokhav Ya'ir-Tzur Yigal), originate from "The Stars Plan," a national project that was initiated in 1991 and called for the establishment of new towns (and the expansion of existing ones) along the Green Line between Israel and the West Bank (Newman and Schofield, 1995). Drawing from earlier, similar plans (e.g. Kipnis, 1978), one of the plan's aims was to establish wedges of Jewish settlements between Palestinian settlements to prevent them from merging (Newman and Schofield, 1995), thus creating a territorial continuity between Israel and the occupied West Bank. The construction of Modi'in fulfilled an additional state agenda in the 1990s following a mass wave of immigration of Jewish immigrants from the USSR. Between 1990 and 1994, approximately 1–1.5 million people arrived, increasing the overall population of Israel by 11 percent (Alterman, 1995). Facing the increase in housing demand and the public intolerance of homeless families sleeping on

the streets (Ibid, 1995), the first neighborhoods of the city were authorized by special planning committees ("Valal") that expedited the approval process.

These motivations can be viewed in the case of the two neighborhoods analyzed. The construction of the new neighborhoods to the north of Tel Aviv reveals a local, economically driven agenda. The motivation behind these developments was a significant decrease in Tel Aviv's population in the 1970s and the 1980s, a demographic shrinkage that was perceived as a metropolitan and central-city crisis by mayors, policymakers and planners (Marom, 2014). Among other strategies that focused on the central city, the municipality reacted to this process by constructing new neighborhoods, which were meant to increase the supply of residential units and attract new residents. In this case, market pressures and land values were high, and the neighborhood's construction was initiated and promoted by the municipality in reaction to accelerating inter-city competition as cities tried to upgrade their statuses in global and local hierarchies (Cox, 1995; Gospodini, 2002). According to the former chief planner of the municipality, in the construction of Tel-Baruch North, the Tel Aviv municipality acted much as a commercial company would by supplying a needed product: "*Look, what Apple offers? Apple sells a product; it creates a certain need and fulfills this need. I think it [the neighborhood] just gives people what they need*" (Baruch Yoskovich, planner, interview, May 2011). Thus, the new neighborhood is considered a commodity, attracting residents and strengthening Tel Aviv's relational role within the region; this entrepreneurial policy predates the establishment of the state, when cities in Israel were cores of a bourgeois society and were based on a capitalist economy in which development in the rural periphery embodied the national ethos (Hatuka and Kallus, 2007). From the early days of Tel Aviv, the city's development was influenced by land availability and was embedded in a highly speculative market (Hatuka and Forsyth, 2005).

In contrast, the Hashimshoni neighborhood in Modi'in and the newly constructed city as a whole were viewed as "*a strategic location which should be anchored by a substantial city*" (Yonatan Golani, the former head of the national planning agency, Lecture in Modi'in, February 2010). The city's construction was part of a national planning strategy similar to the construction of the New Towns three decades earlier, with residential developments used to promote geopolitical goals, including creating a barrier between the coastline to the west and Palestinian villages and towns to the east, decreasing developmental pressures in the Tel Aviv Metropolitan Area, and reinforcing the east–west connection between Tel Aviv and Jerusalem (Kipnis, 1978; Ministry of Housing and Construction and Safdie Architects, 1990). The location of the city just off the Green Line constitutes this area not as an edge or a border but rather as part of a continuous territory between Tel Aviv and Jerusalem. In the face of low market pressures and low land values in the regional periphery, the state was unrestricted in achieving its geopolitical and national goals. This pattern is linked to yet another distinction between core and periphery – the sharp difference in real estate values between the two neighborhoods.

These differences portray the Tel Aviv Metropolitan Area as a region characterized by uneven distribution of resources and opportunities (Israel and Frenkel, 2015), not as a horizontal network of endless choices and minimal restrictions. These findings support the argument of Razin and Charney (2015) that Israel is dominated by the Tel Aviv metropolitan core, and none of the secondary metropolitan nodes are able to compete with Tel Aviv for national or even regional dominance (pp. 1140–1141). Thus, the duplication of similar neighborhoods across the region and the physical network of roads and highways do not automatically constitute a dynamic network. Rather, this spatial configuration represents a top-down spatial intervention that shapes social life and creates spatial, cognitive and political hierarchies.

The city-region as a hierarchical network and the challenge of representation

What, then, is the best manner in which to describe the contemporary Tel Aviv City region? As observed from the analysis, the spatial development and the establishment of new neighborhoods in the city-region are embedded in geographical and economic hierarchies. As such, city-regionalism in Israel should be considered a product of a hybrid approach that juxtaposes the network system and the hierarchical system. The implementation of these concepts is led by the state as part of the historical and ongoing process of managing the *internal* territorial structure and *external* territorial relations (Jonas, 2013).[8] Since Israel's establishment, planning has played a major role in the distribution and dispersal of the Jewish population from densely populated coastal areas to other parts of the newly formed state (Kirby and Abu-Rass, 1999). As such, the contemporary new neighborhoods and their geographical spread in the Tel Aviv Metropolitan Area should be viewed as another phase in the Israeli process of modern urbanization. Whereas during the 1960s–70s, spatial development was used as a tool to construct a national identity and lifestyle as a means to reorganize territory (Kallus and Yone, 2002), currently, the central government is promoting similar goals with the assistance of the private sector. Thus, the duplication of seemingly similar neighborhoods and locales across a regional infrastructure of highways and roads does not automatically constitute a dynamic and non-differentiated network. *What has been created is a hybrid entity that can be viewed as a "hierarchical network" of suburban locales.* Indeed, whereas the new neighborhoods contribute to the polymorphic configuration of the city-region, there is no evidence that transport and communication networks challenge the economic and political hierarchies. In that sense, much less has changed in the spatial development of the city-region, and neighborhood design emphasizes suburban, children-oriented qualities. This contextual interplay of forces entails diverse landscapes of city-regionalism (Jonas, 2013), thereby creating significant inconsistency within the urban region itself, as different logics shape its different parts and the city-region is constructed as an internally differentiated hierarchical network.

The questions addressed in this paper extend beyond the case of Tel Aviv and can be observed in the context of the "regional question" and the ongoing search for its contemporary representation. The challenge in better understanding and analyzing city-regions is connected to key questions in planning research: "What is going on here?" and "Why is it like that?" The responses to these questions later affect the normative question, which planners must engage with: "What ought to be done?" (Campbell, 2012). In addressing the question of "What is going on here, or what do we see?", it is evident that the idealization of the network, which is often the lens through which we tend to view the city-region, is a conceptual choice that affects *analysis* and *terminology*. However, the network, considered in the neoliberal economy as a means to enhance strategic alliances and to support competitiveness and flexibility so that capital and people can move more quickly (Beauregard, 2005: 28), must be addressed critically. Whereas some scholars argue that current processes of development create a completely new urban form (Dear 2003; Garreau, 1991; Lang, 2003; Sieverts, 2003; Soja, 2000), others claim that they are the latest stage in lengthy suburbanization processes that date back two centuries (Hayden, 2003) and that even (seemingly) new urban developments are, in fact, rooted in historical formations (Batty, 2001). The Tel Aviv case supports the latter arguments.

Furthermore, this representational tension between concepts reflects the epistemological challenges in analyzing and representing the city-region, which are also reflected in a terminological ambiguity. The choice of concept through which we view the city-region also

affects the methodological choices and the question of "why is it like that?", which often results in different findings. As has been argued and demonstrated, it is clear that "any evaluation of the spatial organization of an urban system depends on which function is examined" (Burger et al., 2014).

Building on the case of the Tel Aviv Metropolitan Area, the following points are suggested when assessing contemporary city-regions: (1) *Adopt conceptual hybridity*. As has been argued, city-regions are going through a process of change in which both concepts are differently used to shape the city-region. This process does not occur "at once," and thus hybrid terms better capture the current dynamics. (2) *Embrace a methodology that juxtaposes methods and approaches*. This approach acknowledges that the multiple lenses though which we explore the city-region might assist in exposing the gaps between a priori conceptualizations, actual experiences, and geopolitics in the quest to better understand "the differences among settlements and their different growth trajectories" (Phelps and Wu, 2011: 5). Indeed, our rather limited knowledge about how different "networks" are spatially manifested in different city-regions worldwide reminds us that "one can think in the abstract but not act there" (Beauregard, 2005: 24). (3) *Address the city-region dyanmics*. Although planners and elected officials often talk of relational and dynamic networks, the physical and spatial manifestations of these urbanization processes are structured and well-ordered locales. Using Christopher Alexander's metaphor, although it might function as a network, the city-region is designed as a "tree". Therefore, the key to better understanding contemporary city-regions and the relational construction of space is to explore the relationships between socio-spatial dynamics, political intentions, and economic dynamics.

These gaps in understanding and conceptualizing city-regions influence both research and planning practices. Therefore, when answering these questions, both researchers and professionals should consider the wellbeing of residents. Adopting a new concept does not necessarily mean that we are moving toward a "good" or "just" city-region or challenging the suburban models; it simply implies that there are multiple competing factors that have an interest in engaging and shaping the city-region. Indeed, nowadays people who live in the city-region act on different scales and connect to different socio-spatial networks. However, at the same time, this multidimensional scale of living is a socio-spatial system with its own rules and rhythms, over which researchers and planners have a major influence.

Declaration of conflicting interests

Funding

Notes

1. According to the Israeli real estate website www.yad2.co.il/ (accessed 01 October 2011), prices may have subsequently fluctuated.
2. The heterogeneity of city regionalism begs the fundamental question of whether the city region exists as a distinct entity in the first place. Indeed, there are many ways in which to define urban regions, including as a single yet polynucleated functional unit (Dieleman and Faludi, 1998) and as an imagined regionalism shaped by compositional forces (Amin, 2004). In this paper, the definition

of the urban region is based on the formal definition of the Tel Aviv Metropolitan Area, which comprises two administrative districts. This definition allows us to examine the compatibility (or inconsistency) between administrative conceptions and daily life.

3. The city of Modi'in, officially named Modi'in-Maccabim-Reut, was constructed to the west of the Green Line. In 2003, it was municipally united with the suburb Maccabim, which is located in a no-man's-land between Israel and the West Bank and is an area whose sovereignty was not resolved after the 1948 war.

4. The term "Green Line" refers to the armistice line agreed upon by Israel and the Arab states following the, 1948 Arab-Israeli War. After the 1967 war, this line was internationally accepted as a demarcation line between Israel's sovereign territory (to the west) and the Palestinian territories occupied by Israel (to the east), also known as the West Bank. The Green Line is also referred to as the "1967 border" or the "pre-1967 border".

5. This is consistent with statistical data from a census held in 2008, according to which 97.3% of the households in the corresponding statistical area owned at least one car and 69.7% of households owned at least two cars (Central Bureau of Statistics, 2008).

6. This is consistent with statistical data from a census conducted in 2008, according to which over 90% of the households in the neighborhood owned at least one car and over 40% of households owned at least two cars (Central Bureau of Statistics, 2008).

7. A random selection of 15 real estate transactions from Tel-Baruch North and 15 transactions from Hashimshoni, all from 2012 to 2015, reveals an average price of 29,337 Israeli Shekels per square meter in the former and an average price of 15,847 Israeli Shekels per square meter in the latter. The data were collected from the Israel Tax Authority at www.misim.gov.il/svinfonadlan2010/ (accessed August 2015).

8. The planning system has not lost its centralized character: 93% of the land in Israel is still managed by the Israel Land Administration (ILA). Ownership of real estate in Israel often means leasing rights from the ILA for a period of 49 or 98 years (Israel Land Administration, 2013), providing a rationale for retaining a strong and centralized planning system that acts largely through the Ministry of Interior Affairs (via national and regional planning committees) and the Ministry of Construction (formally, the Ministry of Housing and Construction). Thus, to date, the central government remains in charge of major planning decisions and dictates Israel's spatial configuration.

References

Albrechts L and Mandelbaum S (2005) Introduction: A new context for planning? In: L Albrechts and S Mandelbaum (eds) *The Network Society: A New Context for Planning? The Networked Cities Series*. London and New York: Routledge, pp.1–6.

Alexander C (1965) A city is not a tree. *Architectural Forum* 122(1–2): 58–62.

Alterman R (1995) Can planning help in time of crisis? Planners' responses to Israel's recent wave of mass immigration. *Journal of the American Planning Association* 61(2): 156–177.

Amin A (2004) Regions unbound: Towards a new politics of place. *Geografiska Annaler: Series B, Human Geography* 86(1): 33–44.

Arribas-Bel D and Sanz-Gracia F (2014) The validity of the Monocentric City model in a polycentric age: US metropolitan areas in 1990, 2000 and 2010. *Urban Geography* 35(7): 980–997.

Batten DF (1995) Network cities: Creative urban agglomerations for the 21st century. *Urban Studies* 32(2): 313–327.

Batty M (2001) Polynucleated urban landscapes. *Urban Studies* 38(4): 635–655.

Batty M and Marshall S (2016) Thinking organic, acting civic: The paradox of planning for cities in evolution. *Landscape and Urban Planning* 166: 4–14.

Beauregard R (2005) Planning and the network city: Discursive correspondences. In: L Albrechts and S Mandelbaum (eds) *The Network Society: A New Context for Planning? The Networked Cities Series*. London and New York: Routledge, pp.24–33.

Beauregard RA (2006) The radical break in late twentieth-century urbanization. *Area* 38(2): 218–220.

Brenner N (2002) Decoding the newest "metropolitan regionalism" in the USA: A critical overview. *Cities* 19(1): 3–21.

Bull M (2000) *Sounding out the City: Personal Stereos and the Management of Everyday Life*. Oxford & New York: Berg.

Burger M and Meijers E (2012) Form follows function? Linking morphological and functional Polycentricity. *Urban Studies* 49(5): 1127–1149.

Burger MJ, Meijers EJ and Van Oort FG (2014) Editorial: The development and functioning of regional urban systems. *Regional Studies* 48(12): 1921–1925.

Burger MJ, Van Der Knaap B and Wall RS (2014) Polycentricity and the multiplexity of urban networks. *European Planning Studies* 22(4): 816–840.

Campbell H (2012) Planning to change the world. *Journal of Planning Education and Research* 32(2): 135–146.

Campbell SW and Park YJ (2008) Social implications of mobile telephony: The rise of personal communication society. *Sociology Compass* 2(2): 371–387.

Castells M (1996) *The Rise of the Network Society: The Information Age: Economy, Society and Culture*, Vol. 1. Oxford, UK and Cambridge, MA: Blackwell Publishing.

Central Bureau of Statistics (2008) *Population Census*. Jerusalem: Central Bureau of Statistics.

Central Bureau of Statistics (2015a) *Land Area, Population and Population Density: International Comparisons (Data for 2015)*. Jerusalem: Central Bureau of Statistics.

Central Bureau of Statistics (2015b) *Table 11: Participation in the Labor Force, Unemployment, Employee Jobs and Immigrants (Data for 2015)*. Jerusalem: Central Bureau of Statistics.

Central Bureau of Statistics (2015c) *Table 12.3: Population Aged 15 and over in the Tel Aviv, Jerusalem, Haifa and Be'er Sheva Metropolitan Area, by Labor Force Characteristics and Sex*. Jerusalem: Central Bureau of Statistics.

Central Bureau of Statistics (2015d) *Table 2.25: Localities, Population and Density per Sq. Km., by Metropolitan Area, and Selected Localities*. Jerusalem: Central Bureau of Statistics.

Central Bureau of Statistics (2015e) *Table B/1: Population by Population Group (Data for December 2015)*. Jerusalem: Central Bureau of Statistics.

Champion AG (2001) A changing demographic regime and evolving polycentric urban regions: Consequences for the size, composition and distribution of city populations. *Urban Studies* 38(4): 657–677.

Clarke N (2009) Networks, urban. In: R Kitchin and N Thrift (eds) *International Encyclopedia of Human Geography*. Oxford: Elsevier, pp.414–418.

Cox KR (1995) Globalisation, competition and the politics of local economic development. *Urban Studies* 32(2): 213–224.

Davoudi S (2003) European briefing: Polycentricity in European spatial planning: From an analytical tool to a normative agenda. *European Planning Studies* 11(8): 979–999.

Dear M (2000) *The Postmodern Urban Condition*. Oxford, UK: Blackwell Publishing.

Dear M (2003) The Los Angeles School of urbanism: An intellectual history 1. *Urban Geography* 24(6): 493–509.

Dieleman FM and Faludi A (1998) Polynucleated metropolitan regions in northwest Europe: Theme of the special issue. *European Planning Studies* 6(4): 365–377.

Dupuy G (2005) Challenging the "old" urban planning paradigm: The network approach. In: L Albrechts and S Mandelbaum (eds) *The Network Society: A New Context for Planning? The Networked Cities Series*. London and New York: Routledge, pp.120–122.

Efrat E (1992) The planning and development of the hills axis. *Karka* 35: 23–30 (in Hebrew).

Featherstone M (2004) Automobilities. *Theory, Culture and Society* 21(4–5): 1–24.

Garcia-López MA and Muñiz I (2010) Employment decentralisation: Polycentricity or scatteration? The case of Barcelona. *Urban Studies* 47(14): 3035–3056.

Garreau J (1991) *Edge City: Life on the New Frontier*. New York, NY: Anchor.

Giddens A (1991) *Modernity and Self-Identity: Self and Society in the Late Modern Age*. Stanford, CA: Stanford University Press.

Gordon P and Richardson HW (1996) Beyond polycentricity: The dispersed metropolis, Los Angeles, 1970–1990. *Journal of the American Planning Association* 62(3): 289–295.

Gospodini A (2002) European cities in competition and the new 'uses' of urban design. *Journal of Urban Design* 7(1): 59–73.

Graham S and Marvin S (2001) *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition*. London, UK: Routledge.

Hall P (2009) Looking backward, looking forward: The city region of the mid-21st century. *Regional Studies* 43(6): 803–817.

Hanssens H, Derudder B, Van Aelst S, et al. (2014) Assessing the functional polycentricity of the mega-city-region of central Belgium based on advanced producer Service transaction links. *Regional Studies* 48(12): 1939–1953.

Harrison J (2013) Configuring the new 'regional world': On being caught between territory and networks. *Regional Studies* 47(1): 55–74.

Harrison J and Growe A (2014) From places to flows? Planning for the new 'regional world' in Germany. *European Urban and Regional Studies* 21(1): 21–41.

Hasson S and Choshen M (2003) *The Socio-Spatial Structure of the Tel Aviv Metropolitan Area*. Jerusalem: The Floersheimer Institute for Policy Studies (in Hebrew).

Hatuka T and Forsyth L (2005) Urban design in the context of glocalization and nationalism: Rothschild Boulevards, Tel Aviv. *Urban Design International* 10(2): 69–86.

Hatuka T and Kallus R (2007) Mediation between state, city, and citizens: Architecture along the Tel Aviv shoreline. *Journal of Architectural and Planning Research* 24(1): 23–41.

Hatuka T, Bar R, Jacobson M, et al. (2012) *Neighborhood-State*. Tel Aviv: Resling.

Hayden D (2003) *Building Suburbia: Green Fields and Urban Growth*. New York, NY: Vintage Books, pp.1820–2000.

Healey P (2007) *Urban Complexity and Spatial Strategies: Towards a Relational Planning for Our Times*. London, UK: Routledge.

Hillier J (2008) Plan(e) speaking: A multiplanar theory of spatial planning. *Planning Theory* 7(1): 24–50.

Israel E and Frenkel A (2015) The distribution of capital forms between cities and suburbs and their impact on social justice in space. *Urban Geography* 36(4): 578–607.

Israel Land Administration (ILA) Website (2013) Available at: www.mmi.gov.il/envelope/indexeng. asp?page=/static/eng/f_general.html (accessed April 2013).

Israeli Employment Service website (2017) Available at: www.taasuka.gov.il/he (accessed March 2017).

Jarvis H (2007) Home truths about care-less competitiveness. *International Journal of Urban and Regional Research* 31(1): 207–214.

Jessop B, Brenner N and Jones M (2008) Theorizing sociospatial relations. *Environment and Planning D: Society and Space* 26(3): 389–401.

Jonas AEG (2012) Region and place. *Progress in Human Geography* 36(2): 263–272.

Jonas AEG (2013) City-regionalism as a contingent 'geopolitics of capitalism.' *Geopolitics* 18(2): 284–298.

Jonas AEG and Ward K (2007) Introduction to a debate on city-regions: New geographies of governance, democracy and social reproduction. *International Journal of Urban and Regional Research* 31(1): 169–178.

Jones M and MacLeod G (2004) Regional spaces, spaces of regionalism: Territory, insurgent politics and the English question. *Transactions of the Institute of British Geographers* 29(4): 433–452.

Kaika M and Swyngedouw E (2000) Fetishizing the Modern City: The phantasmagoria of urban technological networks. *International Journal of Urban and Regional Research* 24(1): 120–138.

Kallus R and Yone HL (2002) National home/personal home: Public housing and the shaping of national space in Israel. *European Planning Studies* 10(6): 765–779.

Kearns A and Parkinson M (2001) The significance of neighbourhood. *Urban Studies* 38(12): 2103–2110.

Kipnis B (1978) *The Potential for Urban and Housing Development at the Eastern Hilly Edge of Israel's Coastal Plain*. Haifa and Jerusalem, Israel: Applied Research Institute, the University of Haifa and the Ministry of Housing and Construction (in Hebrew).

Kirby A and Abu-Rass T (1999) Employing the growth machine heuristic in a different political and economic context: The case of Israel. In: A Jonas and D Wilson (eds) *The Urban Growth Machine: Critical Perspective Two Decades Later*. Albany, NY: State University of New York, pp.213–225.

Kling R, Olin S and Poster M (1995) The emergence of postsuburbia: An introduction. In: R Kling, S Olin and M Poster (eds) *Postsuburban California: The Transformation of Orange County since World War Two*. Berkeley, CA: University of California Press, pp.1–30.

Kloosterman RC and Musterd S (2001) The polycentric urban region: Towards a research agenda. *Urban Studies* 38(4): 623–633.

Lang R (2003) *Edgeless Cities: Exploring the Elusive Metropolis*. Washington, DC: Brookings Institution Press.

Lang R and Knox PK (2009) The new metropolis: Rethinking megalopolis. *Regional Studies* 43(6): 789–802.

Marcuse P and Van Kempen R (2000) Introduction. In: P Marcuse and R Van Kempen (eds) *Globalizing Cities: A New Spatial Order*? Oxford, UK and Malden, MA: Blackwell Publishing, pp.1–21.

Marom N (2014) Relating a city's history and geography with Bourdieu: One hundred years of spatial distinction in Tel Aviv. *International Journal of Urban and Regional Research* 38(4): 1344–1362.

Ministry of Housing and Construction and Safdie Architects (1990) *Modi'In: A New Town*. Jerusalem, Israel: Ministry of Housing and Construction (in Hebrew).

Ministry of Housing and Construction, Department of Urban Planning (1990) *A City in Modi'in*. Jerusalem, Israel: Ministry of Housing and Construction (in Hebrew).

Mitchell W (1996) *City of Bits: Space, Place, and the Infobahn*. Cambridge, MA: MIT Press.

Mitchell W (2003) *Me++: The Cyborg Self and the Networked City*. Cambridge, MA: MIT Press.

Myers D (2005) Escaping the prison of "the present place:" Can we plan the future of localities in the context of a network society? In: L Albrechts and S Mandelbaum (eds) *The Network Society: A New Context for Planning? the Networked Cities Series*. London and New York, NY: Routledge, pp.34–44.

National Social Security Agency (2013) *Report No. 249 Average Wage and Income per Locality*. Jerusalem: National Social Security Agency.

Neuman M (2005) The compact city fallacy. *Journal of Planning Education and Research* 25(1): 11–26.

Newman D and Schofield C (1995) *Boundaries in Flux: The 'Green Line' Boundary between Israel and the West Bank—Past, Present and Future. Boundary and Territory Briefing No. 7*. Durham, UK: International Boundaries Research Unit.

Nilsson K, Pauleit S, Bell S, et al. (2013) Introduction. In: Nilsson K, Pauleit S, Bell S, et al. (eds) *Rural–Urban Regions: A Spatial Approach to Define Urban–Rural Relationships in Europe*. Berlin Heidelberg: Springer, pp.1–9.

Paasi A (2009) The resurgence of the 'region' and 'regional identity:' Theoretical perspectives and empirical observations on the regional dynamics in Europe. *Review of International Studies* 35(S1): 121–146.

Phelps N and Wu F (2011) *International Perspectives on Suburbanization*. Basingstoke, UK: Palgrave MacMillan.

Phelps NA, Wood AM and Valler DC (2010) A post-suburban world? An outline of a research agenda. *Environment and Planning A* 42(2): 366–383.

Portugali J (1999) *Self-Organization and the City*. Berlin, Germany: Springer Science and Business Media.

Purcell M (2007) City-regions, neoliberal globalization and democracy: A research agenda. *International Journal of Urban and Regional Research* 31(1): 197–206.

Razin E and Ben Ami G (2011) Tel Aviv: The scope for metropolitan governance in a metropolitan state. In: H Heinelt, E Razin and K Zimmermann (eds) *Metropolitan Governance: Different Paths in*

Contrasting Contexts: Germany and Israel. Frankfurt and New York, NY: Campus Verlag, pp.206–229.

Razin E and Charney I (2015) Metropolitan dynamics in Israel: An emerging "Metropolitan Island state"? *Urban Geography* 36(8): 1131–1148.

Roy A (2009) The 21st-century metropolis: New geographies of theory. *Regional Studies* 43(6): 819–830.

Savage M, Bagnall G and Longhurst B (2005) *Globalization and Belonging*. London, UK: Sage.

Schnell I (2004) Glocal spatial lifestyle in Tel Aviv. *Geography Research Forum* 24: 58–76.

Schnell I, Benjamini Y and Pash D (2005) Research note: Neighborhoods as territorial units: The case of Tel Aviv-Jaffa. *Urban Geography* 26(1): 84–95.

Schwartz M (2002) Border changes under the pretext of security. *Challenge* 3(4): 6–23.

Sieverts T (2003) *Cities without Cities: An Interpretation of the Zwischenstadt*. London, UK and New York, NY: Spon Press.

Slater D (1997) *Consumer Culture and Modernity*. Cambridge, UK: Polity Press.

Soja E (2000) *Postmetropolis: Critical Studies of Cities and Regions*. Malden, MA: Blackwell Publishing.

Soja E (2015) Accentuate the regional. *International Journal of Urban and Regional Research* 39(2): 372–381.

Turok I (2009) Limits to the mega-city region: Conflicting local and regional needs. *Regional Studies* 43(6): 845–862.

Urry J (2004) The 'System' of automobility. *Theory, Culture and Society* 21(4–5): 25–39.

Vasanen A (2012) Functional polycentricity: Examining metropolitan spatial structure through the connectivity of urban sub-centres. *Urban Studies* 49(16): 3627–3644.

Wellman B (2001) Physical place and cyberplace: The rise of personalized networking. *International Journal of Urban and Regional Research* 25(2): 227–252.

Young D and Keil R (2010) Reconnecting the disconnected: The politics of infrastructure in the in-between city. *Cities* 27(2): 87–95.