

FRAMES OF MIND

Imageability and legibility
in contemporary Moscow

Timothy Misir

Where the physical environment is no longer the main source of cognitive cues, and tangible and physical spaces and places in the landscape are far less significant in contributing to our reading of the environment, how does one orientate and engage in space? This article explores how the networked condition contributes to creating an image of the city.

i n t r o d u c t i o n

In 1960 Kevin Lynch published his seminal treatise on urban design, *The Image of the City*, focusing on the effects of physical form on spatial cognition, based on his analysis of Los Angeles, Boston and Jersey City. Widely regarded as a canonical text of urban design and planning, *The Image of the City* has been widely quoted again and again, and regarded as the paramount understanding of sense-making in cities, with its concepts still reflected in current urban design thinking.

The aim of this project is to look at Moscow's legibility and imageability in the age of Foursquare, where thinking and processing is replaced by code and machines, and user-generated content and locative media are contributing to making sense of the city. Even if the physical environment is no longer the main source of cognitive cues, as a result of one's increased use of mobile mapping applications, and tangible and physical spaces and places in the landscape are far less significant in contributing to our cognitive reading of the environment, the city continues to be readable on other levels, especially beyond its functional meaning.

Lynch's methodology required conducting numerous interviews with city inhabitants, involving discussions of photographs of places, producing mental sketch maps, and also field reconnaissance to see how the city was presenting itself to them. The results would then be synthesized to produce a general public image of the city. This was a long and tedious process and explained his small sample size. He approached the city from the perspective of the user, specifically the pedestrian that makes use of visual cues to navigate the city at the ground level. He broke down the cities into their fixed forms, defining five types of urban elements: nodes, paths, edges, districts and landmarks.

He hypothesized that together they influenced how city inhabitants read and made sense of their environment by aligning the different parts of a city into a coherent mental image. He believed that individuals formed personal interpretations and understandings of their environment based on their reading of its structure and physical form. The clarity of the landscape from its physical and spatial characteristics he termed 'legibility'. The visual quality of the environment and its mental representation in observers, termed

'imageability', seems to imply a deeper emotional and personal connection with the environment, though he used it quite interchangeably with 'legibility'. He stated that 'if the city image is strong and clear, the viewer receives a certain degree of emotional security, allowing them to pursue their own aims in the city without anxiety', as opposed to disorientation in an illegible city.¹

Now we are able to find out where people go, how they move through the city, and what sort of words they associate with places through publically shared data found on social media networks. An attempt is made to use this data to see how an image of the city is being created in the networked age, and what additional 'elements' might be used to make sense of the contemporary city. Particularly, from user impressions, the vernacular geography of places and the ad-hoc networks and extended personal spaces contribute to a collective image of a place. The aim of this project is to look at Moscow's legibility and imageability in the age of Foursquare, where thinking and processing is replaced by code and machines, and user-generated content and locative media are contributing to making sense of the city. Even if the physical environment is no longer the main source of cognitive cues, and tangible and physical spaces and places in the landscape are far less significant in contributing to our cognitive reading of the environment, the city continues to be readable on other levels.

p l a c e s i n c o d e d s p a c e M o s c o w

Respondents from a small sample group of interviews conducted to gather opinions about orientation in Moscow all cited the city's circular form and concentration of activity in the centre (Fig. 1). The most prominent feature in defining the city's limits was the Moscow Ring Road (MKAD), which circulates the periphery of Moscow. The three inner ring roads that radiate around the city centre on different levels also provide reference for orientation alongside a few main boulevards and arterial roads, most of which begin somewhere around the Kremlin and link the city centre to the outlying districts. All these roads are strong paths, and, for the most part, boundaries in the Lynchian sense. The Red Square and seven prominent Stalinist skyscrapers that are dotted around the city centre loom large over the uniform landscape were the most commonly

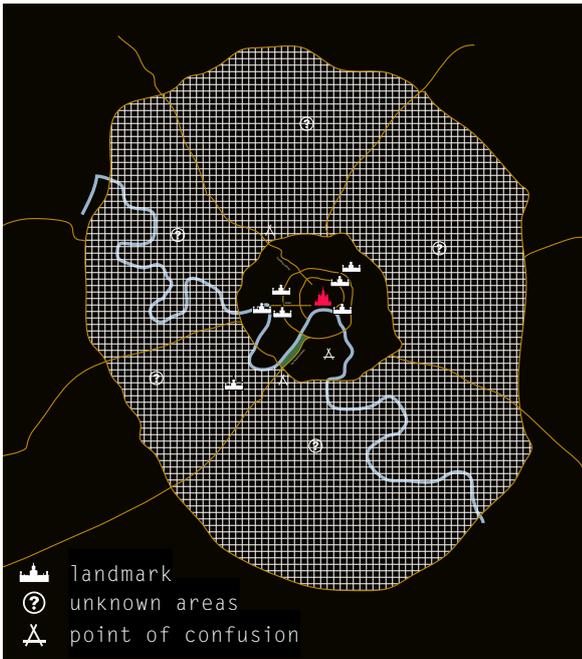


Fig. 1. Basic sketch map of Moscow made in the Lynch method

cited landmarks, orienting many respondents in the city centre (Fig. 2). The Moskva River, that meanders through the territory between the north-east and south-west was both mentioned as a prominent path and boundary.

But at ground level, Moscow's legibility is not particularly clear. For drivers, following one-way streets makes navigating the city difficult and breaks one's continuous reading of the landscape. For pedestrians, the main roads are almost like edges, as they often divided parts of the city from another. The common problems cited that seem to prevent a coherent reading of the city include traversing the city's large boulevards and big streets - along which prominent landmarks such as signs seem to be absent - lie almost identical buildings that do not increase the area's legibility, lacking distinct facades and identifiable characteristics. Long building blocks and the lack of access between and around them mean that one often has to make large detours to reach the other side of a building or to cross the street. The large streets, like Tverskaya Street and any of the ring roads, are impossible to cross without an underpass, which are spaced far apart. Navigating through traffic intersections at street level become complex tasks. Some points of confusion mentioned include Leninskiy Prospekt, Lubyanka, Tul'skaya, or Oktyabr'skaya (Fig. 3) and crossing the Moskva River (Fig. 4), all of which involve numerous long waits at traffic lights and several detours. Moving away



Moscow: Some elements of the city (user-uploaded images and impressions, from top)

Fig 2. Landmark (Kotelnicheskaya embankment building)

Fig 3. Node (junction at Oktyabr'skaya)

Fig 4. Edge/path (Moskva River)

from the city centre, the environment becomes even less identifiable, especially on reaching the microrayons, where most of the city's inhabitants live, predominantly in standardized Soviet-built panel block apartment buildings, in neighbourhoods that lack distinctiveness from each other. As such, city districts were hard to define, and were usually just a distinction between the city centre and the periphery.

However, different parts of the city have different associations and meanings for citizens, that contribute to its overall image. Furthermore, these experiences are now extended and enhanced by mobile technologies and locative media, and

are shared online. However, *The Image of the City* was written in the pre-internet age and only considered physical form. In the networked age, data and the physical context are closely intertwined; information is ambient and almost every person and place in the city is networked and the contemporary experience of the city is built and structured around information networks. As individuals are able to interact with space in new ways, do the concepts of legibility and imageability continue to be relevant in the contemporary city, and what are the new concepts that help us organize the city cognitively?

The effect of networks on the contemporary city cannot be understated. Defining a network as an organizational paradigm, Manuel Castells states that it is simply, 'a set of interconnected nodes.. self-reconfigurable, complex structures of communication that ensure at the same time unity of the purpose and the flexibility of its execution, by the capacity to adapt to the operating environment'.²

While networks are not a new phenomenon they have become the dominant organizational form and structural logic, influencing social, political and economic life as a result of the new technological environment. The city is a space of places, but the networked city is also a space of flows, the latter of which is a pattern of interaction that Castells described as an abstract notion of where space and time interact with society in the digital age. Networks connect people and places, and the space of flows becomes an expression of power and dominance, and especially so in the late-capitalist, post-Fordist period defined by capitalist-driven development, which it is organised around.³

Location-based media is affecting how one engages with and experiences urban space. Individuals now have all the information about places they would ever need and are able to choose and filter them to suit particular interests. One tunes out of the immediate environment and pays less attention to surroundings where turn-by-turn directions are provided by in-car GPS-powered navigation systems or on one's mobile phone. Places become like nodes suspended within networks, meaning that, at a certain level, topography and landmarks lose their importance. The landscape is 'flattened' and, without the landmarks and other visual cues one normally uses as a way of finding, reduced to a vast terrain of roads and highways, with navigational indicators alerting us to turn at the next junction. Instead, we now receive information about our particular location

and environs without explicitly calling out for it. One finds out about and travels to new places - shops, cafes, bars, etc. not by word of mouth or advertisements but through systems that tailor recommendations to places of interest based on the user's specified location and history, and from pictures and comments about places that pop up on our news feed. This means that, anywhere that is not a node (or placed or represented within a network) gradually loses significance.

m e t h o d o l o g y

Publicly shared Twitter activity in Moscow was gathered over two 24-hour periods, on a weekday and the same on a weekend. Being time-stamped and geo-located, one can use this database to see behavioural and cultural patterns of inhabitants of the city, and their spatial and geo-temporal patterns. This data set included approximately 37000 and 35000 tweets for the weekday and weekend periods respectively. From this stream Foursquare check-ins, tips and tags were gathered, as well as locations and hashtags of Instagram uploads, and the location and content of tweets. There are clearly limitations to making conclusions based on data gathered from social media, not to mention the limited demographic ground it covers, but these case studies (Foursquare, Instagram,

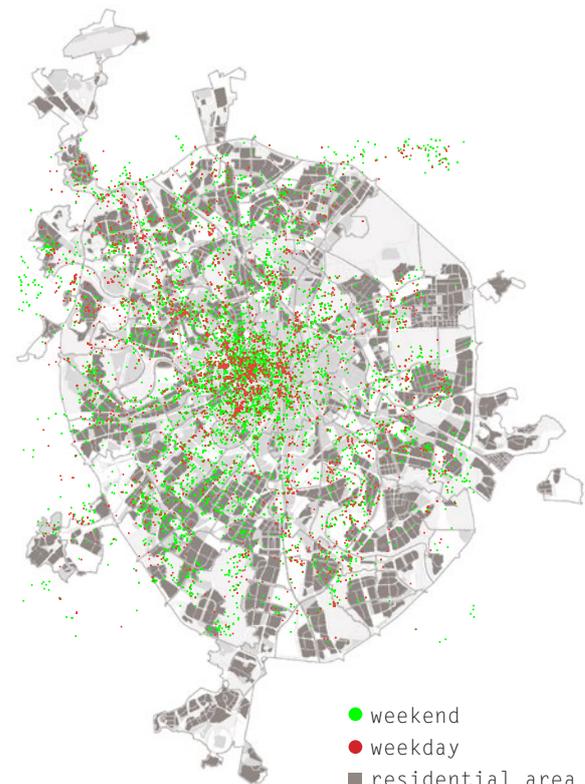


Fig 5. Foursquare check-ins in Moscow during sample period (24 hrs)

and Facebook) are not about their precise content but rather looking at their nature and how they relate to the city that is represented digitally. The three case-studies show that how location-based media is both affects and shows how one engages with and experiences urban space. They serve as a sufficient proxy for revealing place and activity networks in Moscow, and illustrate how digital networks contribute to one's reading of the city, especially since this particular demographic is contributing the most to how places are being represented in digital space.

Looking at the distribution of Foursquare check-ins, most activity is concentrated in the city centre and main transport conduits, though there are also many areas with little or no activity. Weekday and weekend patterns also differed considerably (Fig. 5). The production of data in space is not uniform, and far more concentrated in some locations than others. At times it is even at odds with the physical architecture and space of the city. Because of their digital representation, all these points also function as landmarks, though in a different sense. In the networked age, people also orient themselves in relation to peers on a network, and their points of interest and locations. Their distribution is uneven meaning certain parts of the city are being 'imaged' far more than others and play a disproportionate role in contributing to one's image of Moscow. Where for Lynch edges were linear breaks in continuity, the digitally under-represented places in the city and places that are almost never mentioned are the present day 'edges': where the network ends (Fig. 13).

The situation is best described by McCullough, 'The digital layer accumulates better in some places than in others.. To put it another way, not all is flow in the space of flows.. the flows of people, goods, and information require fixed channels, switches, and fittings to become most effective'.⁴ As a result, some places have become more successful than others, with individuals encountering them more than others, whether in real life or digitally via images circulated, or through comments, tips and check-ins shared on networks, contributing in forming one's image of the city, despite them not being elements in Lynch's sense.

The photographs posted on Instagram, a photo sharing and social network, collectively describe the rhythm of the city and its patterns of life. As a repository of user-contributed images, it provides information on how individuals are seeing and describing Moscow as they



Fig. 6 #rainbow #moscow
#sunset #rain #summer



Fig. 7 #summer #цвета
#москва #прищелка
#лето

come tagged with metadata such as geo-referenced coordinates and hashtags (Fig. 6, 7). Visual form plays a significant role in the experience of places, and this was seen through the words users ascribed to images taken in Moscow, though an analysis of hashtag frequency only revealed the obvious, and it was more interesting to qualitatively analyze photographs and users individually, and not analyze collectively, as this yielded more interesting findings and revealed the personalized geographies of the city. The analysis of linguistic content that accompany tweets, check-ins and images will provide a deeper understanding of how individuals give meaning to their lived environment and insight into popular topics discussed in the city, specifically because they are tied to particular locations. With a larger dataset, one would be able to find out area-specific topics of interest and more precise time-related discussion topics -

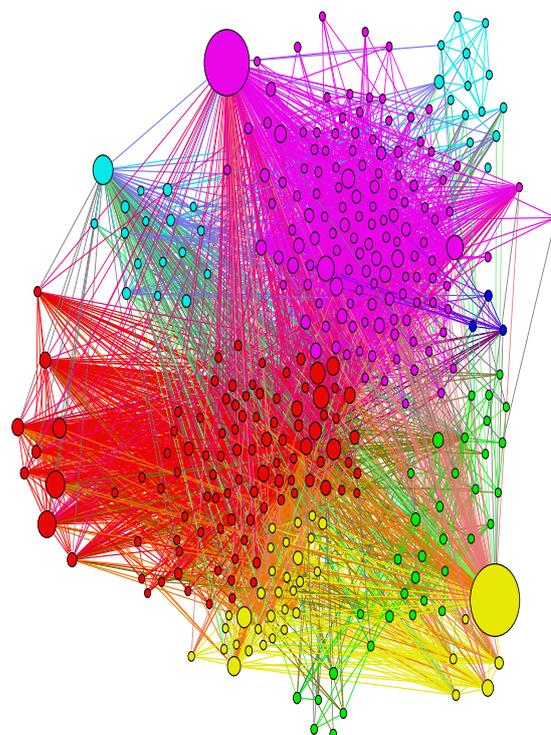


Fig. 8. Communities and relationships in the Moscow River Runners network
Nodes (members) sized according to connections and clustered based on interactivity

for example, when people begin planning meals and look for recommendations, or what kinds of discussions are being generated from particular locales or categories of places, to what sorts of tags are more closely associated with particular areas of the city. Looking at private geographies that are being shared online, one can conclude that a micro-geography of personalized routes and narratives are replacing collectively shared public landmarks.

People are the products of multiple networks, and fluid geographies are being created and processes of connection and disconnection are happening concurrently among individuals based on interests. Connections between nodes make a network. Without these connections the nodes cease to be significant, thus we become the product of where we situate ourselves. Looking at social networks shows how individuals in digital space function in the same manner as physical nodes: where paths converge and a concentration of activity is found. To understand the city in the networked age, one must understand the relationship of its places within their networks, as they receive their meaning from them, and their function relates from their 'nodal role in the specific networks to which they belong', as Castells explains, 'Because practices are networked, so is their space'.⁵

Certain tribes play a more significant role in creating an image of the city, especially through networks and communities, where one person's image or reading of the city becomes etched into the collective memory of individuals in the same network. Data was extracted from the Moscow River Runners Facebook group, a social running club, with 910 members (nodes) and within this, 5316 relationships (edges), to visualize how networks contribute to building an image of a place and create new geographies and orientations in space (Fig. 8). Comments, likes and tips that circulate in Twitter and Foursquare also function in the same manner, building an online history of places, influencing individual perceptions, such as whether it is a good or bad place and attributing other values to places. In this network, photographs and comments posted by users to the group that illustrates how space is being used (for example, of a new running route, a location with a nice view, or an interesting observation during a run) then become points of reference for other members of the group (Fig. 9, 10). While Lynch's 'districts' were areas with recognizable, common identifying characters, this concept can be extended



Fig. 9 #cold #snow #moscow



Fig. 10 #park #vdnkh

to our reading of communities in the digital age, and how they relate to space, as communities link places to each other, for example, based on shared interests. So, in digital space, districts do not necessarily have to be geographically contiguous.

d i s c u s s i o n

As more of the physical world is becoming digitally catalogued, one's experience of space, and even getting there is mediated by technological infrastructures so individuals conceptualize space differently. One might even add that digital generations perceive space differently anyway, as they have never done otherwise.

Ironically, the top five places in Moscow, which total about 1 million check-ins, are actually non-places in the Augéian sense - three are malls that are more or less identical to each other, containing the same chain stores and cafés, while the other two are airports. Of the top 20 locations, ten are malls, while five are either train terminals or airports (source: 4sqstat.ru). To Marc Augé, a non-place is insignificant because they are not symbolized and function as places of transience.⁶ However, they are among the most popular places in Moscow, and individuals' attachment to them can be seen through the amount of photos tagged and uploaded, including personal photos, not just those of the sites themselves.

Looking at the list of venue check-in popularity, The occupation of physical space seems to require, most importantly, the availability of mobile, wireless or 3G signals (the Foursquare list 'Free Wi-Fi spots in Moscow' has 1773 followers, and includes most of the venues with the highest number of check-ins), as well as seating or loitering space (for example, in open spaces or cafés), the availability of various forms of fuel and stimuli (such as food, nicotine, caffeine or alcohol), and shelter, warmth, and light. Thus, one can assume that in Moscow, people orientate



Fig. 11. Leingradskiy Railway Terminal
8th most popular location in Moscow
472 tips, on 120 lists, 6015 photos.
Place rating: 8.4/10
(user-contributed picture, foursquare.com)



Fig. 12. Evropeyskiy Mall
2nd most popular place in Moscow
626 tips, on 267 lists, 5983 photos.
Place rating 9/10.
(user-contributed picture, foursquare.com)

themselves around railway stations/airports (Fig. 11), malls (Fig. 12), and commercial food chains like Starbucks (which has 11 locations in Moscow's top 250 places on Foursquare). The only outdoor place that is well represented is Gorky Park, at 6th position, which, coincidentally, provides free open WiFi access. The only other outdoor spaces that rank highly are Red Square, New Arbat St. and Arbat St. (20th, 21st, 25th position respectively).

With the pre-eminence of networks over built structures, it seems that Lynch's concepts are ill-suited to orientate individuals, where the virtual representation of space comes to define its physical form. However, orientation and engagement are still necessary in the networked age, where anxiety reduction seems more important than before, especially with physical places providing even less legibility than before. A melding of physical and virtual domains is allowing for a more malleable identity and for the city to be shaped and reconfigured by its users. Because of this, a far more subjective experience of space, reflecting multiple personal geographies based on one's interests and demands, is enabled. People consume, produce and broadcast on their own networks, but, even if everyone is living in personal geographies, the digital is being used to highlight the physical.

Commerce and infrastructural networks have long influenced the physical form of cities. In the late 1960s, Archizoom conceptualized a city without qualities, where its infrastructure, not built structure, was not the main organizing feature. Titled *No-Stop City*, it described an exaggerated model of the capitalist city of the future; a model of a uniform,

homogenous, borderless urban landscape based on consumption, whose form allowed for it to expand infinitely. There, the street and urban form mattered little in an environment that was subordinate to electronic media that had accelerated trade and commerce to an absurd degree, and, in turn, caused the metropolis to unravel.⁷ Certainly, the digitization of cities and the growth of associated infrastructure are closely linked to capitalism, enabling the seamless and instantaneous movement of capital and culture, and for increased consumption. In writing about the relationship between architecture in the period of late capitalism and its relationship to the city, Kazys Varnelis highlighted the 'obsolescence of architectural form today', arguing that the 'dominance of the visual' in recent architectural history was an aberration, anticipating an immaterial age, a time where visual elements play a much lesser role in the pursuit for organizational efficiency and profitability.⁸ Perhaps, then, in this immaterial age, a city's lack of physical imageability is being compensated by the increase in the digital presence of places.

At the same time, we observe parallel processes enhancing the city's digital and virtual layers, opening up its borders and edges. Places and their uses are not fixed, as people are defining their own use of space, so the contemporary city changes residually, based on demand. The city functions more like an interface for individuals engaging in the virtual network. Physical architecture and urban design becomes less important in this sense, so city governments and authorities cannot shape the city as they like it and 'create' success anymore, as users give implicit feedback through check-ins,

recommendations and tips broadcast on online networks.

The digital layer does not merely overlay the city, but augments it and is a constituent part of the processes that create it, as Dodge & Kitchin explain, 'In Code/Space, code dominates the production of space, explicitly mediating social-spatial processes and experience'.⁹ 'Ubiquitous', 'embedded', 'ephemeral', 'ambient', 'situated', 'distributed', and 'networked' are some terms that have been used to describe the omnipresent digital space of the city, regulating its rhythms of life. Cities are still spaces to be experienced sensually, though physical elements having less salience in digitised space. The legibility of the spatial structure of the city in Lynch's sense is thus important only to a certain extent, as the digital layer allows for other ways of contributing toward legibility and imageability. While spatial cognition relies on environmental meanings they are also constructed virtually and online by others. If places are significant because of their shared functions and meanings, and if groups or communities contribute to one's understanding of place, then it is far more important for individuals to be embedded in networks.

c o n c l u s i o n

The concepts of legibility and imageability have long been used to explain orientation and engagement with the environment - they are not dead in contemporary Moscow, though how they are formed might have changed. This article has attempted to use social media data to explore how it can contribute to a creating an image of the city for its inhabitants.

To understand the city in the networked age, one must understand the relationship of its places within their networks, as they receive their meaning from them, and their function relating to their 'nodal role in the specific networks to which they belong', as Castells explains, 'Because practices are networked, so is their space'.⁹ The elements of the city are mutating into the virtual world, with completely new concepts emerging. Perhaps, then, new elements of the city that take into account the contemporary condition need to be defined to complement Kevin Lynch's five. These might include: Media (the new public space around which culture is organised), Infrastructure (physical and virtual, around which the space of flows is organised), Consumption (retail and commerce, which guides patterns of movement and navigation,

and determines media perception of places), and, lastly, Portals (points of access into the network, for example cafés and wireless zones, or various social networks and communities within them).

While the city and the urban environment are constantly evolving, its landmarks and fixed forms still exist, though they might not serve the purpose they once did in providing sight lines and orientation. Space is not disappearing but, with more of a virtual presence, imageability seems to be constructed differently in the networked age with other elements. Spaces are being replicated with a variety of meanings and uses, reflecting networked and temporal realities. There are different ways of experiencing one's surroundings, and this often happens socially and through networks. Lynch spoke about a user's comfort level felt when the city was more legible, knowing where they were in space and in relation to visible landmarks. Now, this anchoring is achieved by placing one's self in networks. Though one might argue that it constrains choices, technology is creating new meanings of environment and self.

One's image of the city continues to be a product of a two-way relationship between the individual and his/her environment, but the technological and social shift allows for new ways of experiencing the city, and as a result, individuals are able to shape their own environment. Moscow needs to adapt to support the digital and mobile being, to whom official programming or zoning of space matters little. Space and architecture shaping it should thus not be limiting, and improving public infrastructure must be made to make the city compatible to its occupation and appropriation by users. For example, by increasing the number of public toilets, public lockers, co-working spaces, WiFi hotspots, bicycle repair points, mobile and portable device charging stations, etc. This will encourage users to define and inhabit places to a higher degree, resulting a in physical environment that is not so disconnected from the virtual world, contributing to a more coherent reading of the urban environment for the user.

references

Lynch, Kevin (1960) *The Image of the City* (Cambridge: MIT Press).

Castells, Manuel (2004). 'Informationalism, Networks, and the Network Society: A Theoretical Blueprint', *The Network Society: A Cross-Cultural Perspective* (Castells, M., ed.) (Northampton, MA: Edward Elgar).

Castells, Manuel (2000). *The Rise of the Network Society: The Information Age: Economy, Society and Culture, Vol. 1* (Information Age), 2nd ed. (Oxford: Blackwell).

McCullough, Malcolm (2007). 'New Media Urbanism', *Environment and Planning B: Planning and Design* 2007, V.34.

Castells, Manuel. (2004). 'Informationalism, Networks, and the Network Society: A Theoretical Blueprint', *The Network Society: A Cross-Cultural Perspective* (Castells, M., ed.) (Northampton, MA: Edward Elgar).

Augé, Marc. (1995) *Non-Places: Introduction to an Anthropology of Supermodernity*. 1st Edition. (London: Verso).

Archizoom Associates (1971). 'No-Stop City. Residential Parkings. Climatic Universal Sistem', *Domus* 496, March 1971, 53.

Varnelis, Kazys (2003). 'A Brief History of Horizontality', *Pasajes de Arquitectura y Critica*, March 2003. Web: <http://varnelis.net/articles/horizontality>.

Kitchin, Rob & Martin Dodge (2011) *Code/Space: Software and Everyday Life* (Cambridge: MIT Press).



For places to be strongly embedded in the network and occupied by people, and, as a result, be highly visible in the digital world, there needs to be free wifi, enough places to loiter, and an ample selection of food options.

(User photo: Atrium Mall, Kurskaya - 8th most popular venue in Moscow)

Fig. 13 (below)

