NEW ERA, NEW CRITERIA FOR CITY IMAGING

Kaveh FATTAHI

Urban Design & Regional Planning Lab., Graduate School of Engineering, Hokkaido University
N13W8, Kita-ku, Sapporo 060-8628, Japan
k-fatahi@eng.hokudai.ac.jp

Hidetsugu KOBAYASHI

Urban Design & Regional Planning Lab., Graduate School of Engineering, Hokkaido University
N13W8, Kita-ku, Sapporo 060-8628, Japan
kobarch@eng.hokudai.ac.jp

Abstract
Despite many dramatic changes in last fifty years, urban designers still try to measure "city imaging" with same criteria as was described by Kevin Lynch in his landmark volumes. However, city imaging increasingly is supplemented by exposure to recent progresses in communication infrastructures. It seems that once again we need to re-ontologize concepts of city imaging for twenty-first century as his ideas were theoretically created when digital evolution was not such widely affected our world.
This paper aims to identify effects of these new digital actors on city imaging. Consequently, we propose that with emergence of Softerial Era and infospherization of almost everything, another kind of landmarks have been evolved (linkmarks) which are highly referenced to a self and relative to his destination and necessities in real-time. We believe they can improve not only our "sense of place" but also "sense of time" as an inevitable necessity in our current life.
Keywords: Kevin Lynch, City Imaging, Infospherization, Landmark, Sense of time.

1. Introduction

Our society's modalities of communication are rapidly changing. Large panel displays and screens are being installed in many public and private spaces, ranging from open plazas to private houses. The space around us is going to be instrumented with sensors and displays, and it tends to reflect a diffused need to combine together the information landscape of the Internet – *infoscape* - with the urban landscape of the city. Therefore; computation and sensing are moving from computers and devices into the environment itself.

In the other hand, according to the Independent Commission for Worldwide Telecommunications Development, recently, use of information and communication technology (ICT) has been exponentially increased all over the world (Yamaguchi and Kawaguchi, 2006) is global digital network is not just simply a delivery system for e-mail, web pages or online games. As Mitchell pointed out in his trilogy, it is a whole new urban infrastructure, one that will change the forms of our cities as dramatically as

railroads, highways, electric power supply, and telephone networks did in the past. "It's an old script replayed with new actors. Silicon is the new steel, and the internet is the new railroad."(Mitchell, 1999)

With the emergence of such fluid, responsive, kinetic, data-driven worlds of infoscape and its combination with urban landscape, architecture faces a radical reshuffling of a number of its principal underpinnings. For this reason, many researchers suggested repeatedly that these legacies of the industrial era, and of ever earlier times, will require transformation –in our term evolution- in order to function effectively in the future. However; surprisingly nearly fifty years after the publication of Kevin Lynch's landmark volume (Lynch, 1960), urban designers still grapple with ways to nurture "good city form" (Lynch, 1981) with the same criteria. But, city imaging increasingly is supplemented and constructed by exposure to visual media, rather than by direct sense experience of urban realms. In the *hyper-visual contemporary city* (Boyer, 1996) where new technology is called as an *extension of man* (McLuhan, 1964) and with emergence of *Bodynet* (Mitchell, 2003), the whole question of *city image* and *city imaging* warrants renewed scrutiny. This paper aims to identify the effects of these new digital actors on city images, especially *landmarks* as described by Kevin Lynch. Within this evaluation process several characteristics of such new infrastructures and their effects on landmarks are explained.

2. Literature Review

Our job is to design the future we want, not to blindly follow its predetermined path. Therefore; architects and urban designers might have to deal with both the physical and the virtual aspects of the living environments, and should seek answers to one of the most interesting questions for twenty-first-century urban designers, as William Mitchell has put it: "How should virtual and physical public space relate to one another?" (Mitchell, 1999)

Much research and experimentation needs to be done in that direction in order to give us the vision for not to be shocked suddenly by facing such an era where everything is *re-ontologized* according to emergence of *ITentities* (Floridi, 2008), ICT and media enhanced technologies. For this reason, in recent years, theorists from all areas of science and technology have been trying to come up with a logical projection of what the future Information Age would look like. Most scientific interest has focused on the virtual aspect of the future - including theories of *Noosphere* (Vernadsky, 1998), *Bitsphere* (Mitchell, 1995), *Cyber City* (Boyer, 1996), *E-topia* (Mitchell, 1999), *Cybiont* (De Rosany, 2000), *Information Marketplace* (Dertouzos, 1997), *Infosphere* (Floridi, 2006) and many others. With most theories, the virtual world of the future is referred to as an immaterial and dimensionless environment (e.g. the Internet) that has little to do with the existing physical space while this paper will attempt to look

at the future cities as physical representations along with virtual spaces affected by *data wind* (Vande Moere, 2005). In this sense, one goal of the paper is to investigate whether information age can bring digital qualities to the physical domain. To check this hypothesis, we have focused on the evolution of physical elements of city images in information age.

The concept of city images, first has introduced by psychologists who worked on acquisition of spatial knowledge. They described this process as leading to the formation of an internal representation of space, which is indispensable to allow interaction with the external world. The term "cognitive map" or "mind's eye" (Tolman, 1948) was introduced to refer to this *internal representation* (Downs, 1973). The research of urban designers focusing on spatial orientation is also aligned with the work of the above mentioned psychologists. Perhaps most influential is the work of Kevin Lynch who identified five elements to be essential in the construction of the cognitive map of an urban environment.

In recent years, psychologists one more time have shown their priority in this subject and in their field you can find a growing acknowledgment of ways that media and built environment work together to shape and alter public perceptions of places (Vale, 1995). In the other hand, although for decades, urban sociologists have noted how community identity is socially constructed not only by local residents but also by a wide variety of outsiders, including newspaper reporters and editors (Janowitz, 1952), civic boosters, developers, realtors (Suttles, 1972), marketing firms, and city officials (Weiss, 1987) but the effects of the new outsiders such as ICT on Lynch's elements are absent in most of current researches. This is while through his analysis of the constitutive elements of the image of the city, Lynch has not only transmitted a lesson to urban designers, but also to the virtual reality designers of our generation.

Lynch's city image theory has applied to the design of several virtual cities (Itzhak et al., 2005) and its efficiency for enhancing wayfinding and navigation enhancement has been proved in many other Virtual Environment (VE) studies (Ingram and Benford, 1995) and/or (Ruddle et al., 1997). His theory has been found to help users structure their spatial representation in differing scales (Vinson, 1999) and/or (Darken, 1996). While these studies do not involve real large-scale VE, Al-Kodmany used Lynch's theory as a framework when combining web-based multimedia technology to assist residents and planners in visualizing a community in Chicago (Al-Kodmany, 2001). Despite a large body of research over a number of years into applications of Lynch's theory in VE studies there is hardly any research analyzing the vice versa i.e., effects of VE and digital evolution on Lynch's urban images.

Initially as many researches have stressed the importance of *landmarks* as "organizers which cluster spatial information of city images" (Golledge, 1992) we have also focused on this important element of Lynch's idea and try to elucidate their current evolution in one new phase with specific and identifiable

set of characteristic called as "Infosphere" (Floridi, 2006). We even used the term "infospherization" for evolution process of anything in that era literally we called *Softerial Era* (SE) (Fattahi and Kobayashi, 2008).

3. Re-imaging Landmark in Softerial Era

By examining the obtained data from long term inhabitants of the cities, Lynch identified five major elements of urban landscapes which are used as the main building blocks of their cognitive maps. One of the very important one were *landmarks*. He described them as "Static and recognizable objects which can be used to give a sense of location and bearing… a highly identifiable features in the community such as a monument, historic building, water tower, unique sign/gateway, church, school or etc." (Lynch, 1960)

In his book, for defining the capabilities of those mentioned buildings to become landmarks, he introduced the term *imagability*. There, he emphasized on the importance of both *signifiers* (Man) and *signified* (Urban Space) in the formation of imagability for landmarks. However, regarding infospherization of almost everything in this Softerial Era both man and space and therefore some basic definitions regarding landmarks such as imagability have been evolved:

A. Human Evolution: As described by Toyo Ito[1], nowadays our body and hence our capabilities are not limited just to our biological core but instead they are extended to a new plane stimulated by modern technology to fulfill the necessity of modern life. Our cell phone, PDA, GPS tool, and etc. are some examples of these extended bodies. That is why we categorized our body as follows:

- Biological body (*primitive body*)

- Extra-biological body (*extended body*)

In fact we propose that with the emergence of our extra-biological body, landmark concepts should be revised to encompass the new borders which could be reached by our extended capabilities as well.

B. Space Evolution: Urban structure has been described in various ways such as "spatial events that take place in time and space" (Batty, 2002). However, landmark concepts – as it is also obvious trough the existence of the term "land" in landmark - still sticks hard to space and it seems the importance and hence effects of time has been neglected in Lynch's definition.

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[1] http://www.egothemag.com/archives/2005/04/toyo_ito.htm (Retrieved 25-12-2008)

This is while due to *relativity theory* -contraction of space- we are entering a world full of invisible strings that virtually everything is connected with every other thing in a rhizoid way following the time laws rather than space laws. The more we inter-relate events and processes across space, the more *simultaneity* dominates. The landmark definition has been extended too. They are following hard on the heels of architecture that has started to respond to non-local and non-spatial paradigms of data wind. In a 2007 project called "wikicity" in Senseable city Lab. in MIT the effects of gathered *data shadows* of citizens trough their cell-phones have been super-imposed on the virtual map of city to help taxi drivers find their customers much more easily[2]. This is the first time that instead of physical buildings as the landmarks, virtual presence of citizens in real time started to be used as urban landmarks. In fact via this project landmarks started to be delocalized, dematerialized and astonishingly respect time. In fact we can mention while Lynch continuously insisted on the role of landmarks to enhance '*sense of place*', in such a world and with emergence of *time-like architecture* (Senagala, 2001), they can even be applied to enhance '*sense of time*'.

C. Definition Evolution: As an example, the primary role of landmark would be to enhance imagability and though *legibility* of cities. Legibility of an urban environment refers to the ease with which its inhabitants can develop a cognitive map over a period of time and so orientate themselves within it and navigate through it. Lynch defines the legibility of a city as: "the ease with which its parts may be recognized and can be organized into a coherent pattern" (Lynch, 1960). Legibility like *comprehensibility* for long time has been interrelated with visibility. For the first time Charles Moore noticed fading of what he called "visual glue" when he expressed: "Our new places, are given form with electronic, not visual glue" (Moore, 1967).

Nowadays, the advent of automobile navigation system has changed the concept of legibility dramatically. Drivers are constantly informed of their location and are guided to their destination by communication satellite. They do not use just their biological body to find their addresses, they do not even look up in the map but instead they are immersed in the virtual space called a map. When such a navigation system can also be employed to guide people in urban or architectural spaces, revising the ontology of current landmarks seems to be inevitable.

With augmenting our environments with different sensors, the so called *Google IRL* (In Real Life) of everything even buildings in real time seems practical in short future. In fact the interactive and responsive environment of a2a (anything to anything) information process that works a4a (anywhere for

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[2] http://senseable.mit.edu/wikicity/rome/ (Retrieved 25-12-2008)

anytime) in real time rather than f2f (face to face) situation of *Harderial Era*, gently invites us to consider landmarks as something "a-live" (artificially alive) (Floridi, 2006). In such an environment, not only *physical contrasts*, but even what can be called as *digital contrasts* play major roles to make buildings more imageable. The idea has been reinforced when we found out in a questioner research

in Shiraz city in Iran (Fattahi, 2004) that inside a populated area with several physically contrastable buildings, 87% of applicants noted a famous fast-food shop –which is famous for its kind of advertisement broadcasted in internet and TV channels- as a landmark in their sketches for that .neighborhood. It is located within almost an ordinary building and 92% of those 87% wrote its virtual fame -advertisements- rather than its physical ones as the main factor for selecting that as a landmark. Therefore nowadays we can even speak of *digital glue* along with *visual glue.* In fact instead of each extra atom it is each extra *bit* that makes changes.

Consequently regarding these changes we believe that another category of landmarks has been formed that not only respond to spatial factors but also could be even affected by temporal issues too. They are imageable elements that touch 21 century' senses. We categorized them due to their influences by temporal principals to two major types:

- Durable landmarks (landmarks)

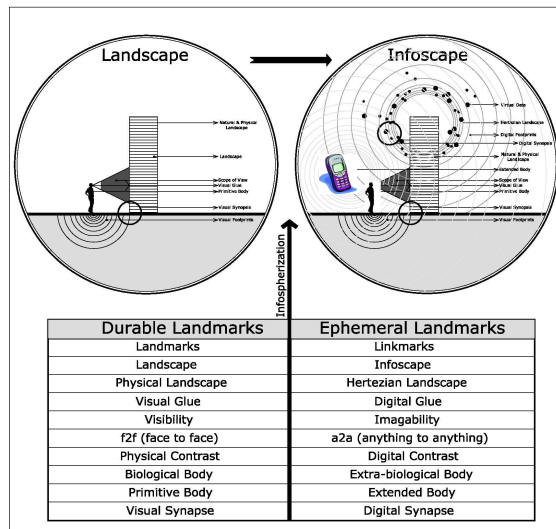- Ephemeral landmarks (linkmarks or infomarks)

Durable Landmarks	Ephemeral Landmarks
Landmarks	Linkmarks
Landscape	Infoscape
Physical Landscape	Hertezian Landscape
Visual Glue	Digital Glue
Visibility	Imagability
f2f (face to face)	a2a (anything to anything)
Physical Contrast	Digital Contrast
Biological Body	Extra-biological Body
Primitive Body	Extended Body
Visual Synapse	Digital Synapse

FIGURE 1. IMAGABILITY IN DURABLE & EPHEMERAL LANDMARKS

While durable landmarks deal with ordinary matters of Harderial Era, the latter one started their existence thanks to the emergence of Softerial Era. They are allocated to any kind of materials in real time and hence responding the *data wind* to help its users enhance their understanding of place and time together. When the former landmarks are almost the same for a same individual using that area in different times the latter could be even different for a same person in different times based on the real time data on that specific time he receives. That is why they are imageable mostly trough our *extra-biological bodies* rater than biological ones (Figure 1).

Kurtarir mentioned that each city images has two kinds of values: *Symbolic value* and *Use value* (Kurtarir et al, 2006). Although still this is just the former one that deals with symbolic value -and so the

nostalgia of place- and in most cases the latter one is oriented for use values but as time passes the *ephemeral landmark* also can be applied to point on symbolic values and hence increase our *place-attachment* as well.

4. Characteristics of Linkmarks in SE

Such kind of new landmarks as consequent of the process of *infospherization* have some characters which distinguish them from their former generations. We propose following 10 main characteristics for our mentioned linkmarks which are also shown in figure 2:

- Mass Customization;

- Intelligent Operation;

- Real-time Operation;

- Prosumption;

- Delocalization;

- Dematerialization;

- Mobilization;

- Anamnesiation;

- Miniaturization;

- Informatization;

FIGURE 2. MAIN CHARACTERISTICS OF LINKMARKS IN SE

5. Conclusion

We believe that Kerckhove was right when he pointed out that the "Architecture of intelligence is the architecture of connectivity. It is the architecture that brings together the three main spatial environments that we live in and with today: mind, world and networks" (Kerckhove, 2001). The world has evolved continuously and it will not stop its evolution too. We as designers should take into account these evolutions and try to go along with them in order not to be neglected. Each new era offers its special infrastructures that can be used to improve our cities appropriately if they are comprehended properly.

Take for example the *infospherization* of our world. As Senagala (Senagala, 2001) once acutely pointed out what if we are able to expand the ways by which we see, hear, touch and sense information in this era? What if we can release more people from the screen for more hours by distributing the interface around the architectural environment? What if the walls, floors, lighting, ventilation and other facets of the architectural environment begin to communicate information to the user? What if architecture, as a whole, becomes a gigantic immersive interface to send and receive information? If, as Heidegger proclaimed, dwelling is the primary ethical imperative of human beings, then architecture needs to be brought into the world with a critical mission of connecting, re-spatializing and temporalizing a world that is fast disintegrating into bits of sand.

Experiencing what had happened in last revolutions, one may find out that the new infrastructures will not demolish what had constructed. It is not the same as *order 66* -in *Purge of Jedi-* to re-instruct them. Instead the same as what old tubes, pipes and wires did, the new backbones will remain much of what is familiar to us today. They just will be superimposed on the residues and remnants of the past like neural structure over the old lizard brain.

We believe such kind of infospherization causes some evolution in our city imaging processes especially for our urban landmarks. Consequently, we propose that another kind of Landmarks have been evolved namely linkmarks which are highly reference to a self and relative to his destination and necessities in RT. With their mentioned characteristics they can improve our "sense of time" along with "sense of place" a necessity in our life which is inevitable currently.

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[3] Center for Engineering Education Development: http://www.ceed.eng.hokudai.ac.jp/

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