Urban Public Space Context and Cognitive Psychology Evolution in Information Environment

Chen Feng, Hua-wei Xu

Faculty of Architecture and Urban Planning of Chongqing University, Chongqing, China

E-mail: 19535411@qq.com

Abstract. The rapid development of information technology has had a great impact on the understanding of urban environment, which brings different spatially psychological experience. Information and image transmission has been full with the streets, both the physical space and virtual space have been unprecedentedly blended together through pictures, images, electronic media and other tools, which also stimulates people's vision and psychology and gives birth to a more complex form of urban space. Under the dual role of spatial mediumlization and media spatialization, the psychological cognitive pattern of urban public space context is changing.

1. Introduction

"The Second Media Age" [1] proposed by Mark Poster has no longer been able to accurately define the current mode of transmission. We are in a new era of information dissemination. New media [2] is a relatively and constantly developing concept. For the current stage, it mainly refers to various types of cross-time information dissemination supported by the multimedia technology and based on the big data and network. Compared with the traditional media, the new media has characteristics of flow, interaction, integration, etc., which continues to impact the traditional spatial cognitive psychology.

Under the influence of the information environment, the ways and results that people understand the environment as well as social ideology and economic base have changed tremendously. The new media broke the limit of some of the old cognitive contexts and created a new "space-time integration" scene. In this new scene, people has a series of new perception, behavior and performance; thus the city image, public space, social life, civic culture and many other aspects have been changed. The quick interweavement of varieties of new media and urban public space transmission also has had a huge impact on people's space awareness. It's essential for us to introduce the thinking theme of "new media communication" in the cognitive dimension of traditional urban public space, and re-examine such phenomenon.

"The Internet technology and new media have changed the form of literature and art, spawned a large number of new types of literature and art, and also brought profound changes in literary ideas and literary practice. With the development of the digitalization of literals, the visualization of books and the Web-based reading, literature and art even social culture is facing significant changes." [3]

From the technical point of view, information has perfectly mixed into physical space, which reinterprets urban public space. The elements of the entity space and the media communication function permeate each other, and the urban public space and the modern media are being collected in diversified forms. Public space has become a flowing visual transformation network, everything in it, including the street interface, landscape sketches, outdoor screens, and even human behavior patterns and other diverse external scenes, are given a richer media attributes.

From the perspective of communication ethics, the non-linear network communication structure development of new media has enhanced the fragmentation of traditional elite values. The aesthetic culture, which spreads extensively with various mass media, especially electronic media, has become an integral part of civil society. The aesthetic psychology in the information era is further emerging from the pure aesthetic field. The elite self-discipline and the lofty aesthetic aura of the aesthetic culture are gradually shrinking. The aesthetic is not the traditional value education paradigm, and the existence of the urban public space visual communication is no longer determined by the elite, but the dynamic networked expression that can meet the personal desire.

2. Pseudo-environment: non-linear narrative scenes in urban public space

2.1 Urban public space as a information system

The urban public space scene can be treated as an "information system". The flowability made by the flow and interaction of information of the new media has thawed the hardened modes of information dissemination, showing the variable diversity. The original fixed, accurate and authoritative information carrier constantly evolves and transforms, and develops towards a more mobile way. With the promotion of information communication technology, Lippmann's "mimicry environment" [4] is even more influential, and the various selected and processed information has been reassembled into a very different environment.

Under this influence, modern buildings give up the regular and clear profile of former ones, but present a kind of fuzzy and chaotic external style. The forms of traditional beauty such as rhythm, cadence, balance, symmetry and so on are being digested. The regular surface and contours of the space begin to be softened and submerged, and the originally obvious boundaries of the various elements are not clear anymore. The construction of the urban public space by the new media has entered a new age.

2.2 The cluster of information film build various of flowing image

The flowability made by the information exchange and network interaction has thawed the solid two-dimensional static interface, which shows the variable diversification. The way similar to printing that the patterns or numbers are printed on the appearance of the building is the most effective for the transmission of information. The strongly expressive architectural surface patterning and parameterization of the media building is becoming the mainstream trend of the style characteristics, value pursuit and design paradigm of art.

The visualized prospect and the multiple intelligent networks built by the new media have changed the fixed psychology and sensory effects of the building in the audience. The aesthetic significance of the graphic images has always been realized in an instant. The various "information film" attached to the architectural skin is no longer a solid material space; the information content on the film is conducting an instant conversion. Large numbers of "information film groups" in the physical space have formed a high-density information "field"; and people's eyes are attracted by the fleeting images on skyscraper ads, pictorial posters and posters one after another. A large number of current speed characterized with real time and interface characterized with high definition has accumulated in urban public space.

People's memory of the public space and impression of consciousness starts to exist in the way of part and fragment addition. This kind of non-linear narrative scene completely deconstructs and subverts the logical narrative and time narrative, but constructs the laws of perceptual narrative and spatial narrative. The order of the past, present and future events in the public space becomes blurred; the break of timeliness and the prominence of "present" make the city scene lose its inner connection and become isolated fragments. This is an entanglement between "nonce" and "delay". Mood reconstruction of Montenegro style has gradually become the phenomenon of urban landscape. The traditional consecutive urban public space cognition begins to be split into numerous non-continuous, non-sustained fragments, and plenty of flowing image symbols changes people's real feelings for the

daily life.

3. Space-time grafting: elimination of the remote vision of space-time boundaries

3.1 Urban spatial pattern blends actual space and virtual space together

In the information era, electronic media can connect information in different geographical positions, break the traditional contact of the original physical space and scene, and digest the boundaries between time and space. New landscape form of the information interface and the new urban experience that media technology development has brought have blurred the material cities and imagined cities' boundaries, constructed the dual-urban spatial pattern containing the real space and virtual space, and created a new space scene. Various virtual media is molding the phantom reality for the city. Virtual space squeezes the real space to produce a sense of temporal and spatial tension; more and more concentrated task switching has formed more and more momentary memories.

The global information grafting has caused space-time condensation of visual scene in the urban public space. Through the electronic media, unsimultaneous events also have a synchronic effect. The flow of information has broken the geographical limits, and image symbols generalized elsewhere begins to be inserted into the city daily life, creating a new space scene.

3.2 Experience of remote presence transcend the real perception of space

The virtual information that new media technology creates and the existing real space becomes mutual permeated, forming a multi-dimensional space-time system. The new media collages the past, the present, the future, the fragmented images and sound together by special language, and the physical space and long-distance space begins to exist in the urban public space; the experience mode of remote presence starts replacing the true perception of real space.

Pascal Schöning mentions, the static architectural entities have completely changed into a dynamic energy release process, which is a presentation and self-presentation of activity events as well[1]. The traditional space-time view of the city has undergone a fundamental change. The urban public space after the "space-time condensation" becomes smaller, and the interface is no longer continuous and complete through information grafting in global age. The rapid development of science and technology also has made the collage of any image easy, which has resulted in the constant crowds and fast changing of city image fragments under the background of "space-time condensation". The urban space scene gradually splits and solidifies into every screen window, interpreted and spread by different groups. This kind of "fragmented" information dissemination trend will bring the collapse of "authority" and the rise of self-consciousness, and gradually lead to the collapse of traditional authoritative aesthetic cognitive psychology system cored by the central aesthetic order.

4. Hyper-realistic scene: the big optical space breaking the traditional geometric perspective

4.1 Spatial images change the rule of Traditional Perspective

The development of digital technology has promoted the change of human visual mechanism which starts to change from single-point fixed perspective to mobile multiple virtual perspectives. The mediumlization of urban public space can show much broader or subtler visual content than its own, and people's visual experience cannot depend on its own physical scale.

The virtual-actual boundary of urban public space is being digested, and the expression of two-dimensional epidermis image gradually replaces the three-dimensional shape perception. Paul Virilio analyzed the new concept of time and space brought by optoelectronic media, summed up the two concepts of prosthesis and big optical space, which he treats urban landscape that modern humans contact through media especially images as a prosthesis that built by human sense, and calls the perspective in optoelectronics generated in image communication as the "big optics" [2].

Images blur the dimension between time and space

Because of the transcendence of the traditional geometric perspective of the new media, the human

body cannot calmly locate in the spatial dimension accurately. Their own cognitive system and the sensory system can no longer clearly and accurately determine the environmental characteristics and spatial direction. Space reading ability begins to confuse and be destroyed, and thus people gradually lose the sense of dimensions about the real space and time.

In this context, the order of things happen in the past, present and future become blurred. Paul Virilio believes real time and delayed time are entangled. People only live in the moment, they cannot confirm their identity, without memory, no more future as well. Breakage of time and highlighting of the present life make everything lose their inner connection and become isolated fragments.

5. Immersive Communication: Immersive Real-time Interactive Street Experience

5.1 An accessible experience of scene
The new media uses information network, modern digital videos, and intelligent mobile terminals as technology support, bringing a special information experience to the information recipients; and it gradually forms a new "immersion communication mode" that continuously integrates new technologies and imaginary space [3]. This kind of entry-style scene experience has a strong spread infection, which is changing our daily reception ways of space information. The complicate visual images created by immersive communication affect human's psychological cognition. And lead to a high-degree interaction between physical environment, digital environment and street campaigns, which is named "intermediary interaction" [4].

Virtual Reality contains interactive three-dimensional dynamic scene fused with multi-source information, it can make users immersed in the environment. Mix Reality technology combines the realistic and virtual world together and a new visual environment generates, where physical and digital objects can coexist and interact in real time. Through the Augmented Reality technology, the virtual information can be applied to the real world. The virtual object and the real environment can exist at the same time, and be overlapped and recombined into a new characteristic space.

5.2 The influence of environmental aesthetics psychology
The new media technology has changed the way humans communicate information, and thus changes the way of space experience. In terms of perceptualism, the new information communication technology and communication ideas reinforce the technical extension of the body, and then revolutionize the aesthetic way of mankind, and begin to turn to an immediate aesthetic, that is, the preferences of the moment, the senses and the body.

Arnold Berleant's Aesthetics engagement [5] has become the main cultural context in the urban public space. In the process of aesthetic acceptance of modern space, the traditional aesthetic concepts such as "aesthetic disinterestedness" and "disinterested aesthetic contemplation" have gradually decomposed, and began to change to the characteristics of "desire aesthetics", and began to shift from the interpretation of the content to the feelings of the works themselves. "The new senses require art to have less content, but pay more attention to the pleasure of forms and styles..." [5] This new technology brings the feature influence of "new receptivity", which "sensual aesthetics" begins to go beyond "interpretive aesthetic", bringing a new psychological impact of environmental aesthetics.

6. Conclusion
Information dissemination affects the survival of mankind; while the survival of mankind changes information dissemination. In the information environment, the material composition of the traditional urban public space is changing to the nonphysical structure. Urban public space has long been transformed into a huge narrative space and performance space. The influence of its spatial form aesthetics is weakening, and it is moving away from the traditional rationalism form, and increasingly turning to the sensibility form centered on graphics and images. In the rapid development of new media technology, we particularly need to pay attention to this city's information visualization trend and its far-reaching impact. Only to actively respond to the advent of the new media era, to relax the

academic field of vision, to take information environment as a perspective, and to research the cognitive psychology of urban public space situation, can only interpret the current development and evolution trend of various psychological cognitive models.

Note

(1) Mark Post has divided the Mass Media Age into two periods of time: the period before the emergence of the Internet is called "The First Media Age"; that the development of the electronic technology and the Internet has completely changed the public communication habits, can absolutely be called "The Second Media Age".

(2) The concept of new media was first proposed in 1967 by Goldmark in CBS-TV of the United States.

(3) Excerpts from the speech delivered by Chinese President Xi Jinping at the National Forum on Literature and Art in October 2014

(4) Lippmann's Public Opinion proposed in the earliest that modern society had become increasingly large and complex, the behavior of modern people had not been a reaction on real objective environment to a large extent, but a reaction on pseudo-environment, that suggested mass communication.

(5) Aesthetics Engagement Theory, an aesthetic concept proposed by Arnold Berleant, which covers two types of appreciation, nature and art; and is also translated into interventional aesthetics, blended aesthetics, or combination aesthetics.

References

[1] Schöning P 2006 *Manifesto for a cinematic architecture*. (London : Architectural Association Publications)

[2] Virilio P 2004 *Speed and Politics* (Yuanchang L trans.) (Nanjing: Jiangsu People's Publishing House

[3] Qin L 2013 *Immersion Spread: the Communication Paradigm of the Third Media Age* (Beijing: Tsinghua University Press)

[4] Thompson J B 2012 *Ideology and modern culture:critical social theory in the eraof mass communication* (Gao X Trans.) (Nanjing: Yilin Press

[5] Susan S 2003 *Against Interpretation* (Wei C trans.) (Shanghai: Shanghai Translation Publishing House)