

Hybrid Urbanscapes of PC Bangs and Their Socio-Spatial Effects on Human Bodies

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피시방의 혼성적 도시경관과 인간 육체에 대한 사회-공간적 영향

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Abstract : This paper suggests an inquiry into the characteristics and implications of urbanscapes produced by Internet cafés, widely called PC Bangs in Korea, and their effects on the motions and boundaries of human bodies as cyborgs which exist in between actual and virtual spaces or between human and machine spaces in PC Bangs. The paper, which is organised into two main sections, first investigates the streetscapes of PC Bangs as electronic architectural spaces and suggests the urban electronic space of PC Bangs in terms of hypertext space. Then, it looks at the effects of PC Bangs on human bodies which exist as human-machine hybrids or cyborgs in PC Bangs. The paradoxical socio-spatial characteristics of PC Bangs as third, liminal or hybrid spaces between actual and virtual spaces or between human and machine spaces can be explained as follows. Firstly, there appear both nomadic and sedentary landscapes in that people in PC Bangs move in virtual spaces on the one hand, and are static in actual spaces on the other hand. Secondly, both open and closed spaces are shaped in that although PC Bangs act as open or public electronic spaces, they involve invisible social boundaries, forming the gendered space of masculinism. Thirdly, the boundaries of the human body are extended and are shrunk at the same time in that while the sensory boundaries of the body in PC Bangs are extended through electronic networks, its social boundaries are shrunk through the imaginary space of solipsism. Thus and finally, PC Bangs can be characterised not only as social spaces entailing embodied and gendered landscapes, but also as non-places involving the cyborg landscapes of human-machine connections.

Key Words : Internet café, PC Bang, hypertext space, rhizome-city, hybrid space, cyborg urbanisation

요약 : 본 논문은 한국에서 피시방으로 불리는 인터넷 카페에 의해 생산된 도시경관의 성격과 함의, 그리고 피시방에서 실제와 가상 공간 사이에 혹은 인간과 기계 공간 사이에 존재하는 사이보그로서 인간 육체의 활동과 경계에 대한 그들의 영향을 탐구한다. 두 부분으로 구성되어 있는 본 논문은 먼저 전자 건축 공간으로서 피시방의 거리경관을 조사하고 피시방의 도시 전자 공간을 하이퍼텍스트 공간의 의미에서 제시한다. 그런 다음, 피시방에서 인간-기계 혼성체 혹은 사이보그로서 존재하는 인간 육체에 대한 피시방의 영향을 조사한다. 실제와 가상 공간 사이의 혹은 인간과 기계 공간 사이의 제삼 공간, 경계 공간 혹은 혼성 공간으로서 피시방의 패러독스적 사회-공간적 특징은 다음과 같이 설명될 수 있다. 먼저, 피시방에서 사람들은 한편으로는 가상 공간에서는 이동하지만, 다른 한편으로는 실제 공간에서는 정적이라는 점에서 유목적이고 동시에 정착적인 경관이 나타난다. 둘째, 비록 피시방이 열린 공적인 전자 공간으로서 역할을 하지만, 남성주의적인 젠더화된 공간을 형성하면서 보이지 않는 사회적 경계를 갖고 있다는 점에서 열린 공간이면서 닫힌 공간이다. 셋째, 피시방에서 인간 육체의 감각적 경계는 전자 네트워크를 통해 확장되지만, 동시에 그것의 사회적 경계는 자기중심적인 상상의 공간을 통해 수축된다. 그리하여 마지막으로, 피시방은 육화되고 젠더화된 경관을 갖고 있는 사회적 공간일 뿐만 아니라, 인간-기계의 결합의 사이보그 경관을 수반하는 비-장소로 특징지을 수 있다.

주요어 : 인터넷 카페, 피시방, 하이퍼텍스트 공간, 리좀-도시, 혼성 공간, 사이보그 도시화

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1. Introduction

The development of PC Bangs in Korea is explained as a characteristic technological and cultural phenomenon, which has led Korea to be a country with a high level of connection to the Internet. "PC Bangs played an important role in generating the nationwide Internet boom" (Lee et al., 2003, 88), and constructed a new layer of electronic landscape on the existing layers of urban landscapes. In the late 1990s, PC Bang began to appear along with the technological development of the Internet and on-line/networked games, and they have rapidly diffused across urban and national spaces since 1998. Some factors explain the reason why the number of PC Bangs has dramatically increased since 1998. First, Microsoft Windows 98 was released, so that people could enjoy on-line/networked gaming or on-line chatting without technological problems. Second, in 1998, the foreign on-line/networked game *StarCraft* began to be imported, and the domestic on-line/networked game *Lineage* came into the market. Both of which are the most popular on-line/networked games in Korea. Finally, the financial crisis in 1997 was another important factor. That is to say, many people who were unemployed and fired from their companies due to industrial restructuring and rationalisation since the economic crisis began to open and manage PC Bangs as their new jobs.

Internet cafés or cybercafés are relatively new phenomena, and their birth is often attributed to the opening of Cyberia in London in 1994 (Liff and Lægran, 2003). Until now, most of the studies of Internet cafés have been conducted largely by British researchers, and the landscapes of Internet cafés have been explained mainly in terms of 'public', 'gendered' and 'consumption' spaces. Sarah Lee (1999) explores the ways in which the

Internet is perceived, used and gendered in the public space of an Internet café in Brighton, England, and argues that the public use of the Internet is not a transitional phenomenon which precedes home Internet adoption and that the Internet café provides a distinct and dedicated use space which is intimately bound up in the domestic and work routines of its users. In addition, Lee (1999) claims that public Internet use can be a key means for traveller Internet users to maintain their community across the world and can be more attractive for female Internet users than male users. Wakeford (1999) looks at the gendered landscapes of computing at the world's first Internet café in London in three aspects. The first is 'on-line landscapes' which are both visual and textual and are the spaces which are frequently described as cyberspace or the virtual. The second is 'translation landscapes' of computing where the Internet is produced and interpreted for ordinary people who consume time on the machines or food and drink. The last is 'specialist landscapes' of the machine which are presented by those who set up the network and ensure compatibility of hardware and software configurations.

In the recent special issue on 'cybercafés' in *New Media & Society* (2003, Vol.5 No.3), some researchers suggest the socio-spatial characteristics of Internet cafés in terms of the hybrid spaces between the actual and the virtual, the human and the non-human, and the local and the global. Liff and Stewart (2003) describe Internet cafés in terms of Foucault's 'heterotopia' (e.g. the mirror) in that the real and the unreal coexist. In addition, they explain Internet cafés in terms of Oldenburg's 'third places', characterised by the distinctive configuration of Granovetter's two kinds of 'social networks' (strong or weak ties), in that weak and strong ties coexist. Drawing on 'STS (Science, Technology and Society)' and 'ANT (Actor-Network Theory)', Lægran and Stewart

(2003) explore the ways in which the space of the Internet cafés is configured and translated through human and non-human actors at local and non-local levels. They define Internet cafés as ‘technosocial spaces’ in that “Internet cafés are not only places offering access to technology; they are also social spaces centred on a specific technology” (360), and explain the spatiality and sociality of the Internet café as an ‘extender’ in that the Internet blurs “the boundaries of the café space by including actors situated at other places in the local community, as well as in other villages, cities and counties” (360). In addition, Wakerford (2003) examines the ways in which both the local and the global are embedded into the Internet cultures of independent internet cafés in London through the interaction of ‘technoscapes’ and ‘ethnoscapes’ in Appadurai’s cultural terms, and Uotinen (1993) investigates the ways in which the particular Internet café of a local community centre in Finland is combined with the various other activities of the local community centre.

This paper suggests an inquiry into the characteristics and implications of urbanscapes produced by Internet cafés, widely called PC Bangs in Korea, and their effects on the motions and boundaries of human bodies as cyborgs which exist in between actual and virtual spaces or between human and machine spaces in PC Bangs. The paper, which is organised into two main sections, first investigates the streetscapes of PC Bangs as electronic architectural spaces and suggests the urban electronic space of PC Bangs in terms of hypertext space. Then, it looks at the effects of PC Bangs on human bodies which exist as human-machine hybrids or cyborgs in PC Bangs. For this research, a deep case study of PC Bangs was conducted in Sinchon, Seoul, which is a quarter where some universities and colleges are located, and one of the typical consumption cultural spaces for young people in Seoul. Of

course, the most important reason why I selected Sinchon is that there are many PC Bangs distributed along streets and around universities. I surveyed various PC Bangs and their street landscapes and their users and owners in Sinchon through qualitative methods such as participant observation and interview surveys. I intensively observed the circadian landscape of a PC Bang called *Lemon PC Zone* in Sinchon, while interviewing the users and staff of the PC Bangs, and recording and picturing their behaviours, activities or practices not only within the Internet café but also in virtual spaces.

2. PC Bangs and Cities

“We are no longer in the nice world of the ‘grammar’ or orienting ‘map’ dreamt of by Kevin Lynch; in its place, we have a freer space in which many unexpected things can happen at once, without overarching story or program, involving rather different relationships between image and city” (Rajchman, 1999, 153).

1) The streetscapes of PC Bangs

PC Bangs are equipped with computer terminals connected to the Internet via broadband, and tend to be used for on-line gaming, compared to other locales (Figure 1). Given that “many new urban consumption spaces relate to new patterns of leisure, travel and culture” (Zukin, 1998, 825) and “the Internet would ... function as a simulated territory we traverse via computer/modern roadster, the computer screen replacing the windscreen” (Nunes, 1997, 164), PC Bangs can be viewed as new urban consumption spaces where people can consume visual images or as mediating/moving machines whereby people can travel into

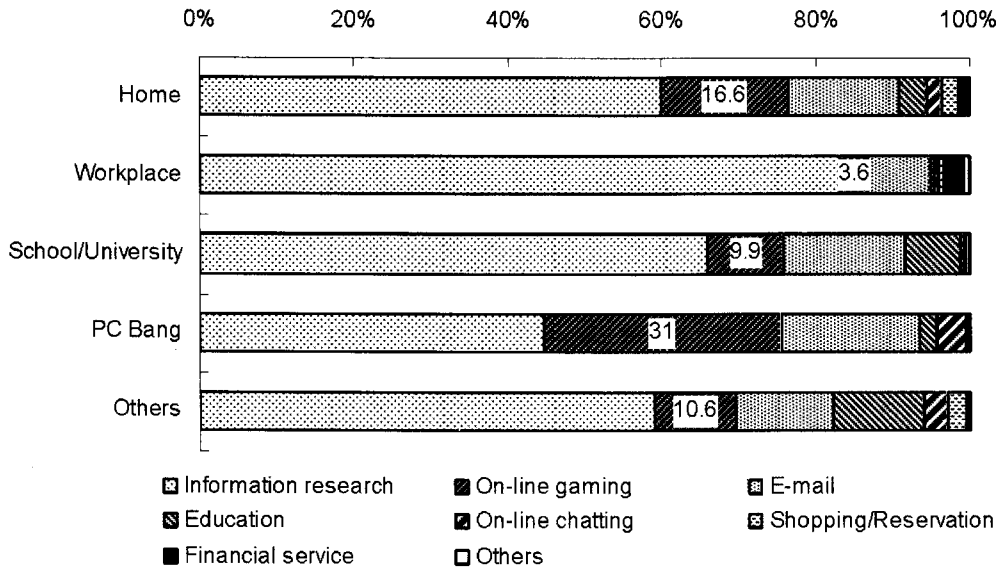


Figure 1. The primary Internet activity by locale (as of June 2001)

Source: Adapted from KRNIC (2001)

virtual spaces. In 2001 there were more than 20,000 PC Bangs across Korea. About 70 per cent of the total PC Bangs exist in the capital region, and other large cities. About 50 per cent of the total PC Bangs consist in the capital region, and almost 25 per cent are located in Seoul (KGDPI, 2002).

Although the electronic landscapes of PC Bangs are found in many cities in Korea, I examined Sinchon in Seoul. Sinchon is a quarter containing several universities/colleges and it is now one of the most typical urban spaces of/for consumption for young people, especially, university students, in Seoul. Sinchon has various political, economic, social and cultural landscapes. In a sense, it has been depicted as the space of freedom and desire and has been seen as a physically or cognitively bounded place with its own distinctive boundaries, territories and identities. In the 1980s, Sinchon was a locus where the political demonstrations of university students against the military government took place, and since the 1990s, it has played host to new urban

consumption landscapes and electronic landscapes such as PC Bangs. Many PC Bangs are located in Sinchon, and many newspaper stories, discussing the immoral social issues related to PC Bangs, focus on this quarter. Because “streets are themselves sites of activity, of cultural practices, and part of our knowledge of the city” (Crouch, 1998, 160), I observed the physical, technological, symbolic and social landscapes of the high street of Sinchon, constructed by PC Bangs, in order to read and interpret the meanings and implications for urban place.

At the time of my research, about 30 PC Bangs could be observed along Sinchon’s 500 metre high street (Figures 2 and 3). This means that if you walk along this street, you can see one PC Bang every 16m. In this street, PC Bangs are much more than public telephone boxes. The doors of PC Bangs displayed billboards or posters promoting the capacities of their electronic networks, computer terminals or visual graphics. Phrases used included “Nothing can be faster than this!” or “Fantastic experience!” Furthermore,

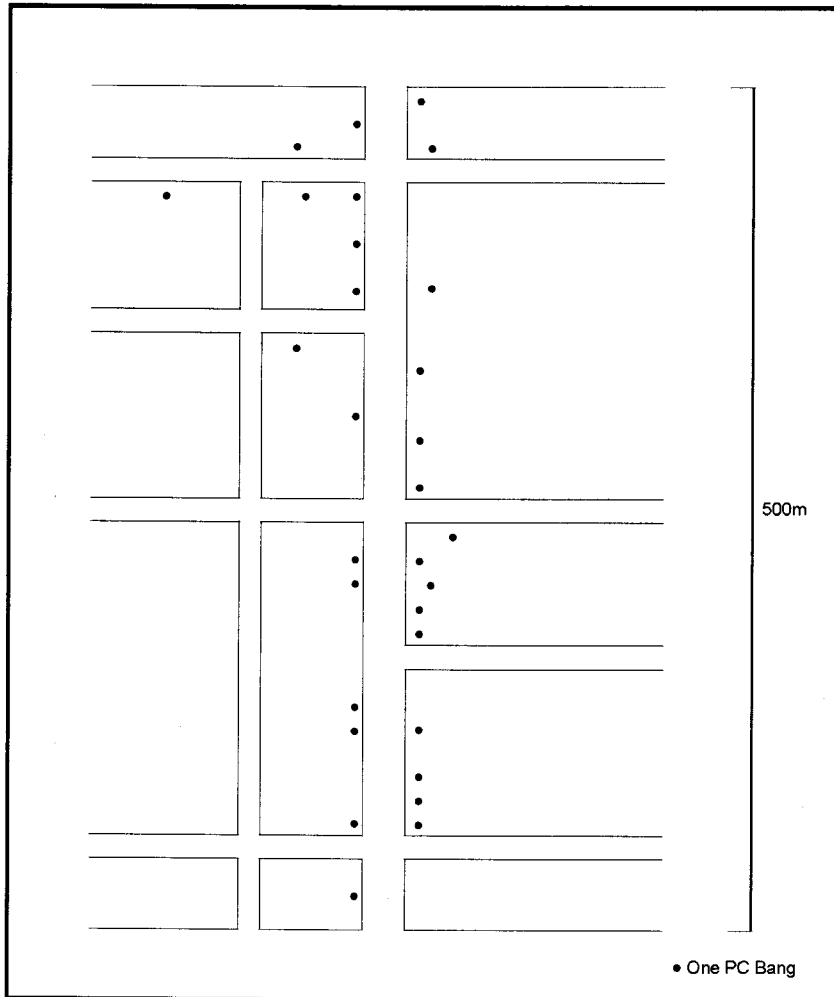


Figure 2. The locations of PC Bangs in Sinchon, Seoul (simplified map by the author in 2002)

the names of PC Bangs are imaginative enough to generate an urban image as virtual space: Cyber, Cyber4you, Nettopia, Come@joy, Log-in, Cyberland, Tech+, Netizen, PC Zone, Cyber-Q, Cyberia and so on (these were originally in English). In these technological and symbolic environments, PC Bangs appear to be mediating/moving machines by which people can travel into virtual spaces and enter an ecstatic world like Disneyland. Although “the meanings of the high street ... are not dictated by technology or determined by changes in the built environment” (Jackson, 1998, 188), in this kind of

new urban space, we need to recognise that its cultural meanings cannot be separated from its technological environments. People’s experience and use of the street and place are formed through technological locales or devices such as PC Bangs or mobile phones, combined with their technological and social practices.

As more PC Bangs are set up in Sinchon and the quarter’s connection to electronic networks increases, it comes to be difficult to define it as a territorialised or bounded space. Rather it seems that Sinchon entails ‘semi-detached (or semi-attached) images of the street’ (Crouch, 1998,



Figure 3. The streetscapes of PC Bangs in Sinchon, Seoul (photography by the author in 2002)

171) in that it can be seen not as a bounded place, but as a porous place penetrated by PC Bangs and electronic networks. That is, it can be thought of as a fractal and liminal space where actual/virtual and human/machine spaces coexist and young people come and go between the two kinds of spaces, no matter whether it is day or night. Just as Shields (1997) describes another street of Seoul – called Rodeo Street – as an exemplary Korean space of ‘local-global tension, interconnection and liminality’, so too we can see Sinchon as a kind of ‘heterotopia’ (Foucault, 1997) or ‘third space’ (Soja, 1996) between imaginary-real spaces.

In this sense, the city itself can be seen as a kind of ‘hybrid space’ with the ‘a-parallel evolutions’ of human and machine spaces (Deleuze and Guattari, 1987, 10), the ‘Moebius effects’ of actual and virtual spaces (Lévy, 1998, 33) or the ‘dual reality’ of actual and virtual spaces (Virilio, 1998a, 61). The ‘real’ is composed of the ‘actual’ and the ‘virtual’ (Deleuze, 1998). In this sense, ‘real space’ is not the ‘space of being’, fixed within the frame of physical time-space, but the ‘space of becoming’ in motion between actual

and virtual spaces. Architecture has been thought of as the space of being, as it is expressed as ‘the art of space’ (as opposed to music as ‘the art of time’) (in Hegel’s perspective) and ‘frozen music’ (in Schelling’s perspective) (Damisch, 1999). However, the space of becoming is far from such an image. “Living things, contrary to Aristotle’s logical constrictions, not only are filled with contradictions, but thrive on them” (Woods, 2000).

2) The city as hypertext

Many have explained electronic cities in various terms. For example, the ‘digital city’ (Ishida and Isbister, 2000), the ‘virtual city’ (Westwood and Williams, 1997), the ‘technocity’ (Downey and McGuigan, 1999), the ‘cybercity’ (Boyer, 1996; Graham, 2004), the ‘invisible city’ (Batty, 1990; Boyer, 1996; Rajchman, 1988), the ‘hidden city’ (Woods, 1996), the ‘overexposed city’ (Virilio, 1997), the ‘infinite city’ (Skeates, 1997), the ‘transphysical city’ (Novak, 1996), the ‘transmissible city’ (Crang, 2000b) and so on. Such cities cannot be any more represented or

mapped only as visible, ordered and linear landscapes as in Kevin Lynch's urban image. We need to recognise that "instead of a series of linear images that formed a sequence or a system of places, thought now appeared as a series of discontinuous states and combinatorial relays" (Boyer, 1996, 141).

We also need to reimagine the city in which "we already inhabit an invisible world of shapes, an architecture of latent information that is modulated by our every breath and transmission" (Novak, 1996), and "urban architecture has to work with the opening of a new 'technological space-time'" (Virilio, 1997, 285). Novak (1991) calls such actual-virtual hybrid architectures a 'liquid architecture' or a 'transarchitecture', which "outline the possibilities facing architecture and culture in the space-time vernacular of global communication and networked computation and which are part of a larger cultural phenomenon he terms 'transmodernity'" (Zellner, 1999, 128). The city composed of hybrid architectures cannot be represented and mapped any more as linear spaces like Euclidean geometrical space, but instead as curved spaces like hyperbolic geometrical space, and its time-space can be regarded not as "a frame of action through which people and things move – cities of motion", but rather as "a malleable field that itself is warped or in motion – cities in motion" (Crang, 2000b, 305).

If there were a term by which the electronic space of PC Bangs could be expressed properly, it perhaps might be Woods' 'freespace', which "provides unlimited free access to communications and to other, more esoteric, networks at present reserved for the major institutions of government and commerce – but also because interaction and dialogue are unrestricted by conventions of behavior enforced by these institutions" (Woods, 1996, 286). Such freespaces are 'useless and meaningless' spaces in that they have "no function that can be identified in

advance, but only a set of potentials for occupation arising from material conditions" (Woods, 1996, 286), and in the freespaces, "buildings are no longer fixed monument of function, but 'injections' into an in-between, perhaps most overtly exemplified by those spaces and structures that have been destroyed or abandoned" (Menser, 1996, 302).

Such freespaces have technological conditions and ideological implications. Technologically, "within each freespace are located instrument stations. These are electronic nodes containing computers and telecommunications devices for interaction with other freespaces and locations in the world, and with other inhabitants" (Woods, 1996, 287). Ideologically, "the concept of freespace is an assertion that 'emptiness' is just another word for 'freedom'. In free space, what is lost is the familiarity of architectural and social norms, the reassurance of control by stable authority, and of predictability, certainty, and the routinization of behavior" (Woods, 1996, 289-290). Freespaces produce the 'heterarchical city' in which "dialogue is an essential aspect of heterarchy, as are other forms of interaction between people, and between people and things, such as buildings and spaces for living and work, such as the city itself", as opposed to the 'hierarchical city' in which "dialogue is always overshadowed by the monologues of authority" (Woods, 1992, 11).

This technological and ideological structure is like the property of post-modern texts in which the authors are dead (Landow, 1994). If the city can be thought of as a kind of 'text' written by various actors in different historical, social, ideological and technological situations (Duncan, 1990), the urban electronic space of PC Bangs can be thought of as a 'hypertext city' in that every point within/between cities can be potentially linked to any other point through decentralised electronic networks, making other

spaces present or absent in the cities. In terms of information systems, “a hypertext system consists of a collection of pages connected by links. The pages are analogous to places, and the links to paths between the places” (Colomb, 2002, 45), and “a hypertext system is nonlinear; that is, unlike the pages in a book, users can access different windows in different orders” (Boechler, 2001, 25).

In a similar vein, Lévy (1998) depicts hypertext spaces as ‘the deterritorialisation of the text’ or ‘the universal without totality’. In this sense, hypertext spaces can be compared to Luis Borges’ place (the Aleph) ‘where all places are’ or James Joyce’s hyperlink-like text (O’Dwyer, n.d.; see also Joyce, 1999; Landow, 1992) or Italo Calvino’s invisible city as “a network much like the matrix of a hypertext, in which the reader can select multiple routes and draw a variety of conclusions” (Boyer, 1996, 142). Thus, hypertext spaces can be represented “as the logical endpoint of a tendency of proximity, the single interface between all bodies, all places, all points of the world” (Geyh, 2001, 109) and “we have the feeling that we are elsewhere, on another terrain” (Joyce, 1999, 231).

Novak (1998, 25) describes such hypertext spaces through architectural imaginations: “whereas previously ordinary passage was the crossing of a single two-sided threshold plane, hyperlink passage replaces this plane with two laminae, a lamina of departure and a lamina of destination, allowing them to exist and act independently and opening up a previously unavailable space between them”. This reminds us of the architecture of the Matrix in which doors are connected to different places (as the key maker explained in the SF film *Matrix Reloaded*). The hypertext city of PC Bangs can be described as exactly what Woods (1992, 27) calls ‘a city of many centres, an unpredictable number of centres, overlapping, interpenetrating one

another.’ It can also be described by what Rajchman (1999, 155) calls “many cities at once, and always another city in the city”.

That is, the hypertext city of PC Bangs could also be seen as an electronic labyrinth which open up in all directions, or as the ‘rootless city’ of n-1 (meaning the subtraction of the One as a centre), which Deleuze and Guattari (1987, 15) call a ‘rhizome-city’, in that the city comes to be composed of a enormous number of electronic gateways/bridges or entrances/exits, which open up in all direction and produce decentralised and heterarchical electronic networks. As Deleuze and Guattari (1987, 12) put it, “perhaps one of the most important characteristics of the rhizome is that it is always has multiple entryways”. This point is one of the most outstanding characteristics of the landscapes of PC Bangs, in that a large number of PC Bangs act as such multiple entryways between actual and virtual spaces. In addition, we can see this urban electronic space of PC Bangs as smooth space, as opposed to striated space in Deleuze and Guattari’s terms. “In striated space, lines or trajectories tend to be subordinated to points: one goes from one point to another. In the smooth, it is the opposite: the points are subordinated to the trajectory” (Deleuze and Guattari, 1987, 478).

One of the most important characteristics of the urban electronic space of PC Bangs is that its patterns, directions and speeds are not pre-planned and pre-determined by the government. This means that the urban electronic space of PC Bangs could be seen a kind of self-organising space in that it is not pre-planned and pre-determined electronic networks, but it self-organises its patterns, directions and speeds, without strongly authorised control or planned order, although this does not mean that they are fully free from the government’s interference. As Portugali (1997, 354) puts it, “such cities are thus chaotic and unpredictable and they self-organize

themselves independent of our scientific predictions and planning rules”. However, this does not mean that the urban electronic space of PC Bangs is a closed system in the sense of classical systems theory. As Luhmann (1995, 447) puts it, “the ‘self’ or self-reference is never the totality of a closed system, it is never the referring itself. It is always merely an aspect of the constitutive nexus of open systems that carries its autopoiesis: elements, processes and the system itself”.

3. PC Bangs and Bodies

“William Gibson’s cyberpunk scene is no longer a distant ream - though not yet science fact - as the increasing enthusiasm for the Internet and ‘net relations’ suggests. With every town now having its own cyber café ... the future looks good for sociological cyborgs” (Westwood and Williams, 1997, 15).

1) The timescapes of PC Bangs

Recently, the temporal effects of new information and communication technologies on people’s activity patterns or rhythms in the city have been increasingly highlighted (Kwan, 2002; Sui, 2000; Harvey and Macnab, 2000; Townsend, 2000). In this sense, it seems to be meaningful to see what temporal landscapes are produced by PC Bangs in the city and what temporal effects they have on urban life. In a 24-hour observation survey of a PC Bang, called *Lemon PC Zone* in Sinchon, Seoul, it was found that most people use the PC Bang from around 18:00 to 24:00. From 18:00 to 06:00 in particular, more than 50 per cent of the total computer terminals (56) of the PC Bang were being operated. In contrast to such a night landscape, from 06:00 to 12:00, less than 50 per cent were on (Figure 4). In addition, in the case of *Lemon PC Zone*, males were more than 80 per cent of the total users. This gendered landscape of PC Bangs in Korea is different from that of Internet cafés in England where males are

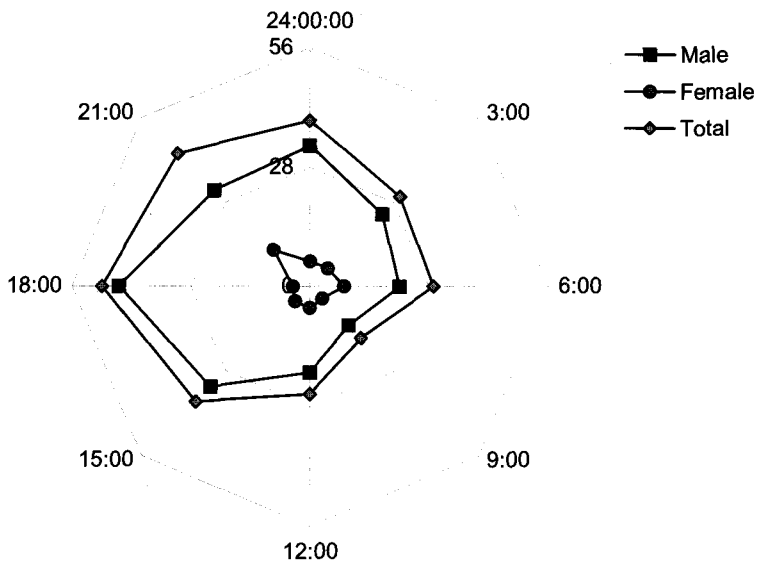


Figure 4. The non-stop and gendered circadian rhythm of PC Bang (the total number of computer terminals is 56)

Source: Observation survey of the PC Bang *Lemon PC Zone* in Sinchon, Seoul

generally under half of the total users (Lee, 1999; Wakeford 1999).

This temporal landscape of PC Bangs implies that they produce non-stop, on-line cities. The 24 hour on-line city of PC Bangs does not mean the city in which urban locales are repetitively switched on/off between home/night and work/day along the time-space prisms of people's everyday lives. It is also different from those of global cities such as London, New York, and Tokyo which become by turns on-line along time zones at a global level. The non-stop, on-line spaces of PC Bangs do not entail such temporal or spatial relays. In fact, the non-stop, on-line city is not a new phenomenon confined to recent electronic cities. Technological advances in transportation and telecommunication have facilitated the intensive use of time as well as the intensive use of space in cities. As a result, a new kind of city or society has appeared called a 'city around-the-clock', '24 hour city or society' and 'non-stop city or society' (Goodchild and Janelle, 1984; Thrift, 1997; Crang, 2001; Kreitzman, 1999; Held and Nutzinger, 1998). As Melbin (1978, 112) puts it, "the appearance and spread of extended-day and increased activities signal an evolutionary step in the growth of cities. They add the permanent colonization of time to the colonization of space and the ecological structure of human life is altered".

However, these are somewhat different from recent phenomena which appear through new media technologies. While the previous 24 hour city/society needs people's active movements and participations; the non-stop city/society induced by new media technologies demands people's passiveness and inactiveness in unavoidable technological environments. New media technologies such as the Internet, satellite TV, cable TV, mobile phones and so on are extremely blurring both spatial and temporal boundaries and rapidly deterritorialising cities and

bodies from physical into electronic time-space. This process has disturbing effects on human senses of time-space and interrupting impacts on urban ecology. As Cook (2003) puts it, "the alternation of day and night and our experience of it becomes a sign of the change in the way we are 'human'". In the case of PC Bangs, although their technological metabolism is not free from individual biological metabolism and collective social metabolism, we need to draw attention to the interrupting effects of PC Bangs on urban metabolism (see the article below).

Miracle workers: in just five years, South Korea has shown the world what the broadband future looks like

PC bangs have a dark side. As one Singaporean newspaper headline put it: "S. Korean youths turning into broadband zombies". Teenagers are, it is said, becoming addicted to games, dropping out of school and traditional group activities, and becoming uncommunicative or even violent. Last week, a 24-year-old South Korean collapsed and died after spending 86 hours playing games in a PC bang without eating or sleeping properly. On the other hand, PC bangs provided crash courses in computer literacy for people who did not have access to a PC at school or at work, and kick-started the market for broadband content, albeit mostly for games. They also ensured that for millions of people, their first experience of the Internet was a broadband Internet. It meant the service providers did not have to sell them the idea. As Kolko says: "There was a lot of pent-up demand for broadband because people who had already experienced it in PC bangs wanted to do the same things at home". (Source: *The Guardian*, 17 October 2002)

The non-stop, on-line city of PC Bangs involves a dual inertia: the synthesis of nomadic mobility and sedentary immobility. On the one hand, PC

Bangs involve the nomadic characteristic of people in cities in that they are based on the flows of people in streets, and make people move constantly in virtual spaces. On the other hand, PC Bangs entail the sedentary characteristic of people in that people tend to stay in PC Bangs continuously, being immersed into virtual spaces, and they sometimes lose their senses of time-space between actual and virtual spaces. Such nomadic and sedentary landscapes coexist in PC Bangs.

It seems then that PC Bangs, filled with computer terminals as 'vision machines' (Virilio, 1998c), produce what is called 'polar inertia' (Virilio, 1998b) through human-machine connections. This is "an illusion in which the body of the witness becomes the unique element of stability in a virtualized environment" (Virilio, 2000, 46). That is, "the age of the vision machine is the age of 'polar inertia', in the sense that the poles on a globe stand still as the globe spins. Thus bodies stand still as light is moving" (Lash, 2002, 58). The case of PC Bangs shows how temporal boundaries can be melted down and be blurred by speeded up machines and how human bodies can be immersed and absorbed into the machines.

2) Being-in-the-virtual-world: cognitive mapping and extended bodies?

Drawing on McLuhan's (1994) thesis of the 'extensions of man' in the 'global village', many researchers have said that transportation and communication technologies extend the boundaries of the human body (see Janelle, 1973; Adams, 1995; Kwan, 2000; Townsend, 2000; Zylinska, 2002). In a similar context, drawing on Haraway's (1991) concept of 'cyborg', Ted Friedman's (1995) also says of the transformation of the subject through computer games through work on the interactive relations of the computer

game *SimCity* and its players.

"It's very hard to describe what it feels like when one is 'lost' inside a computer game, precisely because at that moment one's sense of 'self' has been fundamentally transformed. Flowing through a continuous series of decisions made almost automatically, hardly aware of the passage of time, the player forms a symbiotic circuit with the computer, a version of the cyborgian consciousness described by Donna Haraway in her influential 'Manifesto for Cyborgs' The computer comes to feel like an organic extension of one's consciousness, and the player may feel like an extension of computer itself" (Friedman, 1995, 83).

In addition, Friedman (1995) underlines that the 'identification' and interactive 'processes' between the computer game and its players can produce a new type of subjectivity with fluid and flexible spatio-temporal senses by which the players can have the ability of 'cognitive mapping' in the contemporary society, suggested by Fredric Jameson (1991). That is, the computer game is explained as a means to overcome the crisis of representation by fluid and fragmented time-space in late capitalism. Furthermore, Friedman (1995) suggests a possibility for computer games to enable a more optimistic and interactive society not only between humans and machines but also between humans and humans through new technologies such as computer-mediated communication and so on.

Friedman's (1995) explanation implies that the practices of playing computer games have positive effects in relation to the extension of players' spatial and social senses. However, what I want to argue here is that people's practices of playing on-line/networked games in PC Bangs can affect their cognitive disorientation between actual and virtual time-spaces and their social individualisation and fragmentation in cities.

Computer games are one of the 'new media' producing 'visual digital culture' in terms of the 'culture of the depthless', the 'era of simulation' and the 'age of the signifier' (Darley, 2000, 192). Although the hyper-reality of virtual spaces itself can be seen as superficial and ephemeral, its effects on subject's spatial and social senses can be profound and serious through 'the experience of dislocation in time and space' (Wilber, 1997, 11).

PC Bangs can also be thought of as machines through which the boundaries of the human body in actual spaces can be extended into virtual spaces through connections to computer screens and networks. However, when we think of the extension of the boundaries of the human body, we need to distinguish between two kinds of boundaries of the body: sensory boundaries and social boundaries. According to the ICCK's (2000) survey of the effects of PC Bangs on (school/university) students, more than 30 per cent of the respondents think that PC Bangs tend to make them disoriented between actual and virtual spaces, and about 70 per cent say that PC Bangs tend to make them addicted to the virtual world of on-line/networked games (Table 1). In addition, it is found that females tend to be more vulnerable than males to the confusion between actual and virtual spaces. This implies that their sensory boundaries are extended and absorbed into virtual spaces beyond actual spaces. This process has disorienting and disturbing effects on them in the boundaries between actual and virtual spaces. In particular, in the case of some gamers addicted to the virtual world of on-line/networked games such as Lineage, their lives in actual spaces are seriously affected by virtual spaces. To them, there is no boundary between actual and virtual spaces (see the article below).

South Korea wires up: overnight, the country has gone overboard for the Internet, kicking off a

cultural revolution

Last year Internet gaming company Ncsoft found it had an embarrassing problem. The Seoul firm is the creator of *Lineage*, a medieval cyberworld in which players do battle with swords and shields, and use magical rings to change their identities. Players can swap weapons or buy and sell them using virtual assets. So popular is Lineage - and so competitive are its fans - that some players began buying and selling weapons with real money instead of virtual money. Identity rings were going for as much as \$300 each. The barred players barged into NCsoft's office and demanded to be allowed back online. The company had to call the police. That's how it is today in South Korea: the Internet seems to have made not just Lineage fans but also the whole nation a little cybercrazy. (Source: *TIME*, 22 January 2001)

Furthermore, we need to recognise that while the sensory boundaries of the human body could be extended into virtual spaces beyond actual spaces through computer screens and networks, the social boundaries of the human body could be shrunk into a level of the body itself. As Heim's (1991, 74) puts it, "what technology gives with one hand, it often takes away with the other. Technology increasingly eliminates direct human interdependence. While our devices give us greater personal autonomy, at the same time they disrupt the familiar networks of direct association". In other words, "an isolated individual, cut loose from the sociality of urban life, separated from the world by the pixelated screen" (Crang, 2000a, 304). This is a solipsistic and narcissist electronic landscape. "Solipsism, or the extreme preoccupation with and indulgence of one's own inclinations, is potentially engendered in the technology. ... As the private becomes more all-encompassing and the image of one's own world view becomes more

Table 1. The personal effects of PC Bangs on users

	Disoriented between actual and virtual worlds			Addicted to on-line/networked games		
	Total	Male	Female	Total	Male	Female
Strongly agree	8.2	7.9	8.6	29.3	29.2	29.
Agree	24.0	22.3	26.8	42.5	42.4	42.7
Disagree	38.7	36.4	42.8	17.4	17.5	17.3
Strongly disagree	29.1	33.4	21.8	10.7	10.8	10.5
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: ICCK (2000)

Table 2. The social effects of PC Bangs on users

	One's own world without interruption			Extension of social relationships		
	Total	Male	Female	Total	Male	Female
Strongly agree	20.1	19.8	20.7	7.7	8.2	6.8
Agree	32.5	31.7	33.9	26.0	25.4	26.9
Disagree	35.8	36.8	34.1	44.7	45.2	43.9
Strongly disagree	11.6	11.7	11.3	21.6	21.2	22.4
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0

Source: ICCK (2000)

convincing, one can lose sight of the other altogether" (Foster, 1997, 26). As Robins (1995b, 144) puts it, "virtual empowerment is a solipsistic affair, encouraging a sense of self-containment and self-sufficiency, and involving denial of the need for external objects". As such, although PC Bangs can also enable the extension of the sensory boundaries of the human body, they can result in the contraction of the social boundaries of them. More than 50 per cent of the respondents think that PC Bangs make it possible to make one's world without the interruption of others, and about 65 per cent think that PC Bangs have negative effects on social relationships (Table 2). Furthermore, about one-quarter say that PC Bangs brings about even the severance of human relationship (ICCK, 2000).

PC Bangs act as mediating/moving machines through which people can easily come and go between actual and virtual spaces or can travel

into virtual spaces, leaving their bodies in front of computer screens. In this sense, PC Bangs as 'new urban consumption spaces' (Zukin, 1998) can be seen in terms of Augé's (1995) 'non-places' in hyper-mobility or super-modernity societies, which "combine the characteristics of those spaces which people simply move through and of imposing a form of behaviour on their users that can be described as machine-like, reducing individuals to the status of operators" (Benko, 1997, 23; see also Bauman, 2000, 102). Furthermore, PC Bangs can be seen as a typical example of technological environment which brings about 'cyborg urbanisation' where "the contemporary territory-city seems to have been made for the cyborgs to come" (Chatzis, 2001, 910; see also Gandy 2005 and Graham and Marvin, 2001) and human-machine heterogeneous networks rather than human-human homogeneous networks are more important and

outstanding. In this technological environments, the city increasingly comes to be what Amin and Thrift (2002, 45) call a 'post-social' and 'post-human' community where "as software and other technological entities become more prominent in cities, so the notion of the relationship, and of sociality, needs to be disassociated from its fixation on human groups".

In this context, one of the characteristic landscapes of PC Bangs, somewhat different from those of other urban locales, is that human-machine interactions appear as more dominant landscapes than human-human interactions, making extremely individualised and fragmented human-machine landscapes and thus forming 'non-social' spaces in the city (of course, this does not mean that there are no social interactions or landscapes in BC Bangs). That is, human-human homogeneous actors are disconnected from each other in PC Bang, even though they physically coexist within the same locale, and instead, human-machine heterogeneous actors are closely connected with each other. PC Bangs can be characterised as urban locales with the internal landscape of proximity without interactions, and this is one of the paradoxical landscapes of PC Bangs.

4. Conclusions

PC Bangs have been rapidly developed and diffused since the late 1990s in Korea, helping people to easily access the Internet cities through reducing both (socio-economic) capability constraints and (human-machine) coupling constraints in terms of time-geography and thus producing an initial form of ubiquitous computing space. PC Bangs can be regarded as public electronic spaces that enable people to easily access to the Internet and to come and go

between actual and virtual spaces. Urban electronic space is composed of various electronic cells such as homes, offices, schools/universities and so on. The most outstanding difference between PC Bangs and other locales seems to be that while other locales are typical private spaces or relatively closed public electronic spaces, PC Bangs can be used as public electronic spaces which are open and available to all kinds of people.

More importantly, PC Bangs can be seen as intermediary spaces, acting as gates/bridges between actual and virtual spaces, or as cyborg spaces, existing in between actual/human spaces and virtual/machine spaces. That is, it can be said that PC Bangs make the city a kind of 'liminal space' (Shields, 1991; Zukin, 1991), 'third space' (Bhabha, 1994; Soja, 1996) or 'heterotopia' (Foucault, 1997; Soja, 1996). It is argued that hybrid or liminal spaces, as borderlines or boundaries between two different kinds of spaces, themselves tend to show not only complex and multiple landscapes, but also contradictory and paradoxical landscapes, whether they are technological, architectural or social spaces (see Shields 1992; Hinchliffe, 1996; Woods, 1998).

The paradoxical socio-spatial characteristics of PC Bangs as third, liminal or hybrid spaces between actual and virtual spaces or between human and machine spaces can be explained as follows. Firstly, there appear both nomadic and sedentary landscapes in that people in PC Bangs move in virtual spaces on the one hand, and are static in actual spaces on the other hand. Secondly, both open and closed spaces are shaped in that although PC Bangs act as open or public electronic spaces, they involve invisible social boundaries, forming the gendered space of masculinism. Thirdly, the boundaries of the human body are extended and are shrunk at the same time in that while the sensory boundaries of

the body in PC Bangs are extended through electronic networks, its social boundaries are shrunk through the imaginary space of solipsism. Thus and finally, PC Bangs can be characterised not only as social spaces entailing embodied and gendered landscapes, but also as non-places involving the cyborg landscapes of human-machine connections.

Although the urban electronic space of PC Bangs can be regarded as a low-level cyborg space, we need to rethink Haraway's cyborg feminism in the sense that PC Bangs involve the gloomy landscapes of masculinism and the illusionary landscapes of solipsism and thus it is difficult to find genderless spaces in cyborg urbanisation. In addition, we need to draw attention to the point that there is a critical and paradoxical technological-spatial limit in the potential of PC Bangs to produce Deleuze and Guattari's 'rhizomatic space' or Wood's 'freespace'. As PC Bangs can produce heterarchical electronic networks in cities as nodes or access points in the national electronic space of the KII (Korean Information Infrastructure) which figures as hierarchical electronic networks, the cities come to be more dependent on the national electronic space of the KII and its central city. That is, the urban electronic space of PC Bangs as peripheral electronic nervous systems cannot be free from the national electronic space of the KII as central electronic nervous systems.

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