

Producing and consuming Cyberspace

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"[Cyberspace is] *the conceptual space where words, human relationships, data, wealth and power are manifested by people using CMC [Computer Mediated Communication]*"
(Rheingold 1994: 5)

Introduction

Information technology, the Internet and the World Wide Web are altering the ways in which we make sense of the world, and the manner in which we perceive, understand, live and feel places and landscapes. Computer mediated communication technologies are generating an entirely new dimension to geography... virtual geography (Batty in Crang, Crang and May 1999b). Digitality and representational technologies produce new codings and practices, and with them new possible geographies. There is a need for studies of human geography to take virtuality seriously but, equally important, there is a need for studies of virtuality to place questions of geography at centre stage (Crang, Crang and May 1999b). Throughout this article I want to illustrate some of the ways in which cyberspace, and the WWW in particular, is meaningful as a space, as a place, and as a locus of geographical enquiry.

Cyberspace

Castells (1996) has argued that reality as experienced, has always been virtual because it has always been perceived through symbols that frame practice with some meaning and escapes their strict semantic definition. It is through our varied discourses, comports multiple

meanings, that the complexities and contradictions embedded in the quality of our messages manifest themselves. In a sense, all realities are communicated through symbols, regardless of the medium. All reality is virtually perceived. Thus, electronic media, for example, represents the real, not a primitive notion of an "uncoded" real that has never existed, but a highly coded, meaningful, polysemic symbolic environment.

The word "cyberspace" is an academic and journalistic ubiquity. Although it grew out of science fiction, for many cyberspace is now part of the routines of everyday life. The term was created by William Gibson, a cyberpunk writer, in the novel *Neuromancer* (1984), and referred to a spatialised experience in which speed and movement were the key metaphors: "*Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts ... A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellations of data. Like city lights, receding ...*" (Gibson 1984: 67).

In *Neuromancer*, cyberspace is a "dataspace", a vast "world in the wires" (Shields 1996), known as "the matrix",

where transnational companies trade in information in a visual, Cartesian and electronic space (Kitchin 1998). The term cyberspace is composed by its etymological link through "cyber" to the Greek 'kybernan', which means to control or to steer. One does not need projection goggles and body suits or any other technological prosthesis other than a screen and a keyboard to experience the simulation of landscapes.

Cyberspace is a particular type of virtual space. One in which a new medium of communication involves different ways of seeing landscapes and which is transforming people's interaction with physical environments. It is a space where places are being represented in traditional as well as in new ways. Although it can be conceived as a pathway to various sites/sights containing information, cyberspace is something qualitatively more than a network of computers linked telephonically. The development and rapid expansion of cyberspace is altering our sense of physical space and it is contributing to the way we both imagine and construct places. As Shields (1996) has argued, a new network of virtual sites/sights is being superimposed on the world of places. Clearly, the net blurs the boundaries between "reality" and "virtuality". Computers and the virtual worlds they provide are adding another dimension to mediated experiences. Nunes (1997) argues that one does not go somewhere when picking up the telephone. Yet, when the computer couples with the same telephone lines, suddenly spatial and kinetic metaphors begin to proliferate and enter the popular realm. The Information Superhighway, is a good example of an overused term, which originating in the White House, in the US, and doing little in representing

the actual network architecture that connects the machines in the infrastructure, became extremely popular.

Geographers have engaged with cyberspace in various ways. Some have been exploring the virtual and non-virtual geographies of communities in cyberspace (Smith and Kollock 1999). Others have studied the ways in which small states (Singapore, Slovenia, Western Samoa and Costa Rica) use the WWW to promote themselves to a global audience (Brunn and Cottle 1997). Pritchard (1999) has investigated how the geographical narratives of US food companies on the Internet produce idealised identities within idealised geographies. Cano and Prentice (1998) have descriptively analysed the way in which Scotland is being promoted on the WWW as a tourism destination. Crang, Crang and May's (1999a) collection of essays about virtual geographies is also a good example of the diversity and vitality of the work of geographers on cyberspace. I want now to provide a brief analysis of cyberspace by characterising the main aspects of its production, its consumption and lastly, the contexts and practices in which consumption takes place.

The production of the WWW

One of the principal "promises" of the WWW is democracy. Virtually anyone (in the first world) can "own" a web site and can reach a global audience. Everyone can be whom he or she wishes to be in a Chat Room, and there is no doorman to stop people from entering a virtual bookshop or even a virtual museum. The development of user-friendly software has allowed anyone, even those with a minimum knowledge

of computers, to produce a web site that can be accessed from anywhere in the world, and which can have as much prominence as the sites of an official government or a large corporate organisation. "Today video phones and language-translation programs are finally becoming reliable while desktop publishing and photo-manipulation programs designed for million-dollar glossy magazines are available to every aspiring writer or editor with a PC and a blank disk" (Imken 1999: 92). This easiness of construction of web pages has prompted not only many individuals, but also many towns and businesses, for example, to construct virtual representations on the WWW.

If it is true to argue that it is easy to construct a simple web site, it is also true to say that to construct a sophisticated, well balanced web site requires a great deal of skill, equipment (hardware and software) and cultural capital. On the one hand, producers should have a sound technical knowledge of diverse software and be in possession of updated hardware. On the other hand they should have a sound understanding of the particular characteristics of the WWW as a medium of communication. Just as any other innovation, cyberspace has certain particularities, such as its ephemeral character, which must be understood as they may result in new ways of constructing places.

To investigate the "know-how" of technical aspects and characteristics of the WWW as a medium that people that produce virtual representations have, is not the only important aspect. It is also critical to ascertain the degree to which the producers of particular virtual representations have engaged with the 'real' landscapes they portray. Even the high-tech global images that construct

the world-as-exhibition in such dazzling display have to be produced from somewhere and by someone.

In a sense it is extremely important to examine if the places that are being represented are meaningful to those who are producing them. Do producers have a strong connection with those same places, do they have a "sense of place" for those places, or is cyberspace contributing to a widening of the distances between the "real" and the "virtual"? Since the WWW is a global medium, messages, landscape representations, texts, images and sounds can reach anyone that has access to a computer and who has an Internet connection anywhere in the globe. The awareness and use of multilocal campaigns is critical in a medium such as the Internet, where texts and images are understood differently from one culture to another.

One important aspect of the WWW, is the way in which it is constructed. Instead of the linear, sequential text, the WWW is constituted by hypertext, which is connected in multiple ways, impermanent, and infinitely stretched. Producers should be aware of the fluid characteristics of cyberspace, when providing hyperlinks to other sites/sights. Two important concepts that help us to understand the geography of the WWW are those of "Visibility" and "Luminosity", coined by Bray in 1995 (in Dodge 2000). Visibility is a measure of incoming hyperlinks, that is, the number of external web sites that have a link to a particular site. There are a few highly visible sites with many thousands of incoming links - "they are the bright starts of the web" (Dodge 2000, in <http://www.media.org>). In 1995, the most visible web site was that of the University of Illinois, Urbana-

Champaign, US. The concept of Luminosity refers to the number of outgoing links from a particular site. Results from Bray's research (in Dodge 2000), inform us that the vast majority of sites only have a few links and nearly five percent have no incoming links at all. In 1995, *Yahoo!* was the most luminous site, and probably still is today. We can therefore conceptualise a space where some places are highly visible, and constitute the core of this space, while other sites, which are connected to many other places, allow us to travel to other places, enhancing our mobility and facilitating movement.

The consumption of the WWW

It is impossible to be precise about the number of people accessing the Internet throughout the world (NUA 1999). There are several estimates as to the number of Internet users, and also the number of people that use the WWW. According to the International Data Corporations Executive Insights Report (<http://www.idcresearch.com/f/idcf.htm>), 34 million people used the World Wide Web in 1996, up from 16 million in 1995. The NUA (2001) estimates that currently, the number of people travelling the paths of the WWW is around 300 million people. Despite this growth there are real limits to the continuation of the current growth curve (Kollock and Smith 1999). At its current growth rate, everyone on earth would be using the WWW by 2018. This is utterly utopian. To a certain extent, it is likely that network access will be as widespread as the telephone and television within a few years. Yet, it is estimated that more than half of the world's population has never made a telephone call. An important fact is that

the vast majority of people that presently use the Internet, had never heard of it four years ago (Donert 2000).

Since Internet access is demarcated along economic lines, social inequalities and power structures are embedded in electronic spaces just as in more conventional terrains (Squire 1996). The WWW paradoxically works both to reproduce and reinforce existing hegemonic structures as well as enabling new forms of interactivity (Interrogate the Internet 1996). The Internet is still a territory of Westerners or those Western educated élites in close contact with the "West" (Shields 1996), white and male. Yet, there are important changes taking place. The average user on the Internet is getting older, and findings from the 7th survey by the Georgia Tech Research Corporation (GVU) show that the average age of survey respondents is now roughly 35 years old (NUA 1999). In the US, close to 14 million people over the age of 50 now have Internet access (Irish Times, 15th June 2000), and the average WWW user is more likely to be a suburban housewife than a technology 'aficionado' (NUA, November 2000). For the first time in the Internet history, the number of female users outnumbered that of male users in the United States (NielsenNetRatings in NUA, November 2000). Yet, globally the WWW is still a male dominated world.

The dynamic change of the WWW poses some interesting questions as to its consumption. On the one hand, constant technical innovations in the medium imply that people must also continually update their skills and knowledge to engage in virtual worlds. Hardware becomes obsolete very fast and so does software. The ways in which people engage with virtual worlds is obviously

constrained by the available knowledge and equipment that they have at a particular moment. On the other hand, consumption can also be a form of production, constructing new spaces (de Certeau 1984). The ways in which WWW sites are constructed may open up the possibility of consumers themselves producing these same sites. The existence of guest books and spaces where people can write comments, and interactive forums of discussion that are part of the sites, are examples of features that web sites may have which allow people to add other layers of meaning, thus, producing while consuming; transforming while travelling.

Contexts and consumption practices

Music is now heard mainly in technologically communicated form, that is, not live. Its circulation through these spaces (in connection with that of listeners), along with its assimilation and appropriation of previous contexts for music performance, is part of the elaboration of its forms and meanings. Yet, little writing has been done about music addresses the meaning that might be produced in these spaces, or by them, or for them, or between them. Similarly, the spatial contexts, or the landscapes of translation, in which people engage with cyberspace, are critical to understand the articulation between the medium and the processes of reception and decoding. Therefore, the mediation between producing texts, the spaces of reception and the people that receive the texts is an important aspect of the geographical study of cyberspace.

For some people, travelling in virtual space might happen on their lunch break in a busy office. Others have all the home comforts, central heating and a

Keith Jarrett melody in the background. Others might even engage with virtual environments such as the WWW in cyber-café, and may be quite limited by the "ticking clock". Cost may be an important constraint to the way in which people engage with cyberspace. Both at home and in cyber-café, the cost per minute of using the Internet might be quite significant and might restrain the time people can travel through cyberspace. Engaging in cyberspace from Universities or at work, for example, is quite distinct. In these contexts the costs associated with 'being' in cyberspace are not significant. Yet, the privacy can be central to the exploration of virtual places. The contexts in which people 'navigate' on the web are therefore quite meaningful to understand the ways in which people construct the spaces in which they travel. Statistics reveal that there has been a growth in the number of people that browse the WWW at home, but also illustrate that there is an increase in the number of cyber-café and in the number of people who access the WWW in the workplace and in educational institutions (schools and universities). A survey shows that in Ireland, for example, 11% of people use the Internet at home, 32% at work and 22% at schools or universities (<http://www.nua.ie> 7th July 1999). Friends' homes, cyber-café and public libraries are also important places from which people browse the WWW. To contextualise the ways in which people engage with cyberspace it is important to understand the characteristics and differences between these four distinct spaces of translation - home, workplace, schools and universities and cyber-café. The culturally mediated reception of representations of environments, places

or regions, should be contextualised in the spaces of translation in which they occur. Thus, geographers should go beyond the question of representation, to analyse the practices of Internet users. These practices, I argue, are one of the aspects that relate the "virtual" to the "real". This is in line with Crang's (1997) ideas of the central importance of the practices of seeing.

Summary

I would like to highlight three main points as I draw this article to a conclusion. Firstly, it is important not to fall in utopian views that technology is bringing totally new ways of interacting with the world. At different times, other technologies, such as the *camera obscura* and the television, had a profound impact in the ways in which people constructed the world and geographical knowledge. Secondly, it is critical to regard virtual and "real" worlds as being very related. Geographies of cyberspace should articulate these two spaces, not seeing them as parallel universes and not studying them as two different realms. "Reality" and representation should be approached together, and regimes of truth and configurations of power, knowledge and space should become a central question. Considering virtual geographies as representations makes it perilously easy to think of them as existing fairly and squarely on the far side of the screen. Notwithstanding, once the practices of users are considered as central, then users' existences as embodied, remembering individuals, located on both sides of the screen, moving between virtual and other activities, forcibly come to fore. The connectedness of the virtual and the

real becomes impossible to ignore. It is important to discuss the significance of these new technologies within a dialectical framework of technology and society, that is, deterministic visions should be eliminated. The geographies of virtual spaces emerge from the interaction between the practices of users, who resist and assent with the virtual environments they encounter, and the constraining architecture imposed by those who own the technological terrain in question.

Lastly, cyberspace technologies are characteristically postmodern by virtue of their fluidity and malleability. Cyberspace is an agent of change, leading to new forms of interaction and relations, expressions, representation and society, and in a sense a move towards a society of information. The production of sites/sights on the WWW must be understood within the context of a medium, which is extremely new; the WWW is at an early stage and producers as well as consumers are attempting to engage with new worlds and new forms and ways of representing and reading the world.

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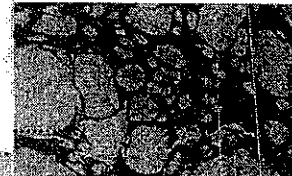
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