Beyond the 'dazzling light': from dreams of transcendence to the 'remediation' of urban life

A research manifesto

STEPHEN GRAHAM
Newcastle University, UK

INTRODUCTION

The so-called 'information society' is an increasingly urban society. The 'digital age' is an age which is dominated by cities and metropolitan regions to an extent that is unprecedented in human history. However, up until the late 1990s, the complex links between cities and electronic communications generated a curiously scarce literature. Since their inception, urban studies, policy and planning tended to neglect electronic means of communication due to their relative invisibility as compared with physical communications systems (i.e. transportation [Mandlebaum, 1986]). Meanwhile traditionally, communications studies disciplines tended to neglect the dominant role of modern cities as crucibles of innovation in electronic communication and the organization of information, knowledge and electronic flows (Jowett, 1993).

Into this vacuum rushed wave after wave of commentators, business writers, futurists, novelists, media theorists, architects and social scientists to analyse the purported 'impacts' of new media from a technologically determinist, and substitutionist, perspective. From this perspective, more bandwidth was seen to inevitably substitute for the power of face-to-face communication in places. Alvin Toffler (1980), Bill Gates (1995) and Nicholas Negroponte (1995) were dominant figures here, with their implictly anti-urban assertions that new media would lead to a 'death of

distance' and so undermine geographical concentrations in cities. In their portrayals, new media and the city were cast as separate realms: the former was an agent effectively at war with any activity which generated the need, or desire, for geographical concentration in cities and urban regions. Similarly, many such commentators also implied that physical transportation flows might be replaced gradually by the growing flows and capabilities of electronic communications.

Building on such foundations, a wave of excited rhetoric in the 1980s and 1990s depicted 'cyberspace' as an immaterial realm that was entirely separated from the material, corporeal world of the body and the city. It was suggested that flows of 'bits' might simply grow in scale to substitute for flows of 'atoms' (see, for example, Negroponte, 1995). It was alleged that this might even lead to the gradual 'dematerialization' of advanced societies and the potential evisceration of urban life, cities and the human experience of place.

Rather than being seen as technologies to be adopted and shaped within the fine-grained practices of everyday urban life, new media were cast thus in this dominant discourse as a 'dazzling light', 'shining above everyday concerns' (Haythornthwaite and Wellman, 2002: 4). This was especially common during the massive boom of 'information age' utopianism that paralleled the rapid growth of the internet and world wide web between the early 1990s and 2000. Here, what Jay Bolter and Richard Grusin have called the 'theology' of cyberspace emerged, based on a master narrative which suggested that new media transform 'information from something separate and contained within computers to a space we can inhabit' (2000: 180). Invariably, the world of new media was pictured in this discourse as 'a world that exists in the future . . . a hope, an expectation, for future fulfilment' (Coyne, 1995: 154).

Thankfully, this situation is now changing dramatically. Since the late 1990s, high-quality theoretical, empirical and policy research on the links between new media and the changing nature of both urban places and life has emerged rapidly in many disciplines across the world. Specialist researchers on cities and new media now exist in urban studies, anthropology, geography, planning, art, sociology, architecture, cultural studies, transport studies and information, communication and media studies.

Together, this work is beginning to constitute a sub-discipline which we might label 'urban new media studies'. This has begun to demonstrate how the overwhelmingly urban context within which the innovation, application and, increasingly, banalization of new media occurs, significantly influences how these media are shaped and used. It has also begun to show how extraordinary current advances in new media applications and technologies are starting to influence the forms, processes, experiences and ideas of urban

life in a wide variety of contexts across the world. In this perspective, the subtle and complex relationships between urban places and the shaping, experience and diffusion of new media present a critical research focus that is all too often lost, because researchers tend to focus either on place or on mediated communication.

As a result, it is now startlingly clear that global urbanization trends, and the intensifying use of computers, internet, telephones and digital media in social, economic and cultural life, are actually closely interrelated processes of change. Against the widespread assumption between the 1960s and late 1990s that electronic communications would necessarily work to *undermine* the large metropolitan region, all the evidence suggests that the two are actually supporting each other. Both, in fact, are constitutive elements of broader processes of globalization, modernization, industrialization, economic restructuring and cultural change.

THE 'REMEDIATION' OF EVERYDAY URBAN LIFE: A MANIFESTO FOR NEW MEDIA RESEARCH

As the sociologists Haythornthwaite and Wellman (2002: 4–5) suggest, the realisation that urban life and new media tend to be constituted together means that social research must move beyond generalized and deterministic discourses about the 'impacts' of 'cyberspace' on society to look in rich empirical detail at the complex ways in which new media technologies are being used in real ways, in real places. As they suggest, 'the reality of the internet is more important than the dazzle' (2002: 4–5).

Bolter and Grusin (2000) have made a major contribution here. They have shown that the whole raft of current new media innovations are not being used in ways that are divorced from the use of existing media, means of communication and material practices in places. Rather, new media are allowing for the subtle 'remediation' of TV, newspapers, magazines, radio, telephones, publishing, books, art, video, photography, face-to-face communication, and the social and anthropological experience and construction of place. This is happening as established practices subtly combine with, rather than disappear through, socially-constructed technological potentials. This perspective points to six starting points in analysing the remediation of urban life.

Stress continuities with discontinuities

First, far from being a complete and revolutionary break with the past, new media maintain many intimate connections with old media, technologies, practices and (electromechanical) infrastructures and spaces (telephone, broadcasting, electricity, highway, streets, airline, logistics systems, and so forth). Therefore, the so-called 'information age' is best considered not as a revolution, but as a complex and subtle amalgam of new technologies and

media fused on to, and 'remediating', old ones (Bolter and Grusin, 2000: 183). There are a great many more continuities and synergies than many would have us believe. We are not experiencing some wholesale, discrete, break with the urban past that has been ushered in by the 'impacts' of new technology. Rather, we are experiencing a complex and infinitely diverse range of transformations where new and old practices and media technologies become mutually linked and fused in an ongoing blizzard of change. As Bolter and Grusin suggest:

> [Cyberspace] is very much a part of our contemporary world and . . . it is constituted through a series of remediations. As a digital network, cyberspace remediates the electric communications networks of the past 150 years, the telegraph and the telephone; as virtual reality, it remediates the visual space of painting, film, and television; and as social space, it remediates such historical places as cities and parks and such 'nonplaces' as theme parks and shopping malls. Like other contemporary telemediated spaces, cyberspace refashions and extends earlier media, which are themselves embedded in material and social environments. (2000: 183)

The need for a 'spatial turn': urban places as dominant hubs of new media activity

Second, new media research needs to engage much more powerfully with the complex intra-urban and inter-urban geographies that so starkly define the production, consumption and use of its subject artefacts, technologies and practices. Urban regions are dominant hubs that shape and configure all aspects of global new media infrastructure investment and global internet and telephone traffic. Cities and urban regions are massively dominant in driving the demand for land and mobile telephony, the internet and new media technologies.

This dominance shows no sign whatsoever of slackening. A few figures are salutary here. Of all the telecommunications investment within France, 80 percent goes into Paris (Graham and Marvin, 1996). In 1998, 25 percent of all of the UK's international telecommunications traffic was funnelled into a single optic fibre network in central London run by WorldCom that was only 230 kilometres long (Graham, 1999). Anthony Townsend (forthcoming, 2004) reports that more optic fibre underlies the island of Manhattan in New York than is threaded across the whole of Africa. And, the internet geographer Matthew Zook has shown that only five metropolitan regions – New York, Los Angeles, San Francisco, London and Washington, DC – account for 17.7 percent of the world's total internet domains. These are the familiar .coms, .nets, .orgs, etc that are so widely portrayed as being 'placeless' and 'without a geography' (see http://www.zookNIC.com/Domains/index.html).

Excavating the material bases of new media

Third, and relatedly, new media research needs to excavate the often invisible and hidden material systems that bring the supposedly 'virtual' domains and worlds of new media into existence. In their obsession with the ethereal worlds of new media – with the blizzards of electrons, photons and bits and bytes on screens – most new media researchers and commentators have ignored consistently the fact that it is real wires, fibres, ducts, leeways, satellite stations, mobile towers, web servers, and – not to be ignored – real electricity systems, that make all of this possible. All these are physically embedded and located in real places. They are expensive. They are profoundly material. They sharply condition the functionality of digitally-mediated encounters (contrast an always-on broadband internet computer with the scratchy and slow service available by dialing up over a telephone line). And they have very real geographies in the traditional sense (i.e. they are in some places and not in others).

Because the material bases for cyberspace are usually invisible, they tend to be noticed only when they collapse or fail through wars, terrorist attack, natural disasters or technical failure. Even when they *are* visible – as with mobile phone masts and telecom towers – they are often disguised so as not to be 'unsightly' (in the UK many mobile towers are camouflaged as fake trees). Thus, in contrast to the vast and land-hungry infrastructural edifices that sustain transport, electricity and water flows, the myth that new media are ethereal and immaterial realms continues to retain power (with major political consequences).

It is also now very clear that the geographical patterns of the material bases and investment patterns of cyberspace are not spreading equally across the world. They are extremely, perhaps increasingly, uneven. In a world of increasing economic and infrastructural liberalization, the giant transnational media and infrastructure firms that build and control the material bases for cyberspace tend to concentrate their investments where the main markets are – in major cities, urban regions and metropolitan corridors. For example, even now, large swathes of the world's poorest countries have little telecommunications infrastructure of which to speak. One-third of the world's population has yet to make a telephone call (let alone log on to the internet). And, even in advanced industrial cities, the spaces where one is able to access the new premium new media services – such as broadband, third generation mobile, or wireless internet – are still limited often to the 'premium bubbles' of connectivity that are located in downtown cores, affluent suburbs, airports or university campuses (Graham, 2000). In the UK, for example, the new 'Wi-Fi' services, which allow people with laptops to connect wirelessly to the internet at fast speeds are, initially at least, only going to be available in airport lounges and selected chains of branded coffee shops and petrol stations.

In short, as Caren Kaplan suggests, 'new technologies appear to promise ever-increasing degrees of disembodiment or detachment'. But, in reality, she argues that

> they are as embedded in material relations as any other practices. They require hard industries as well as light ones. In addition to the bright and mobile world of designers and users, human hands build the machines in factories that are located in specific places that are regulated by particular political and economic practices. Thus, in the production of the machinery and materials of cyberspace, another form of mobility can be discerned, that of labor in this moment of globalization. (2002: 34)

A good example is the stark spatial divisions of labour that sustain the frenzied cycles of innovation and obsolescence in electronic technologies. A continuous and massive – but almost unnoticed – transfer of unwanted, and often virtually new, electronic equipment is now occurring, which flows 'downhill on an economic path of least resistance' from the major cities of the global North to the processing spaces of Asia, Africa and Latin America (Shabi, 2002: 36). For example, in the semi-urban area of Guiyu, in the Guandong province of China, over 100,000 men, women and children earn US $1.50 a day breaking discarded servers, computers, mobiles and other electronic equipment by hand to extract valuable steel, aluminium, copper aluminium, manganese and gold. As Rachel Shabi suggests, these hidden urban spaces are 'grotesque sci-fi fusions of technology and deprivation'.

Centre on contingency

Fourth, it is now clear that the use and experience of new media is associated with myriad urban changes in different spaces, times and contexts. Indeed, one new media artefact – say an internet computer – can be used itself to sustain a wide range of uses by a range of different people at different times of the day and in different physical situations. Each may entail different relations between new media-based exchange and the spaces, times and social worlds of the places that provide the context for its use.

All this means that generalizations about new media and cities, and the invocation of deterministic metaphoes such as the ubiquitous 'impact', is hazardous to say the least (see Munt, 2001). The ways in which places, and social practices, become enmeshed into geographically and temporally stretched electronic networks such as the internet is an extraordinarily diverse, contingent process. And, while there are certainly a growing range of transnational and even 'global' interactions on the internet, we must also remember that many such relationships are profoundly local.

Thus, a wide range of relations are likely to exist between new media and urban structures, forms, landscapes, experiences and the cultural particularities of different urban spaces and times. For example, back in the mid–1990s Bolter speculated that:

> perhaps the Japanese will construct cyberspace as an extension of their dense urban corridors. On the other hand, people can live in the suburbs and participate in cyberspace from their homes, as many Americans do now. Or, as Americans do, they can commute between one cyberspace location in the workplace (a corporate communications system) and another in their homes (America Online). Thus cyberspace can be a reflection of the American suburbs and exurbs, the Japanese megacities, or the European combination of large and medium-sized cities. Cyberspace need not be the uniform entity suggested by the current metaphor popular in the United States, the information superhighway. (Bolter, 1995: 2)

Above all, while there is no doubt that new media can act as 'prostheses' to extend human actions, identities and communities in time and space, it does not follow that the human self is 'released from the fixed location of the body, built environment or nation'. Rather, 'the self is always somewhere, always located in some sense in some place, and cannot be totally unhoused' (Kaplan, 2002: 34).

Crucially, the social construction and experience of the body and geographical space and place actually grounds and contextualize the applications and uses of new technologies. As cultural geographer Denis Cosgrove suggests:

> The urban world networked by [Bill] Gates' technologies strung out on the wire is not disconnected, abstract, inhuman; it is bound in the places and times of actual lives, into human existences that are as connected, sensuous and personal as they ever have been. (Cosgrove, 1996: 1495)

Banalization and the 'production of the ordinary'
Fifth, as new media diffuse more widely and become more taken-for-granted and ubiquitous, it is increasingly apparent – at least in richer urban regions – that they are being used to reconfigure subtly the place-based worlds and mobilities of everyday urban life. New media interactions have now moved from the status of novelty to rapidly diffusing into all walks of life. The mobile phone is the paradigm case of such incredibly rapid diffusion and banalization. In many contexts mobile phones, internet terminals and electronic logistics and surveillance systems are now increasingly ubiquitous – even banal.

In a sense, then, new media have stopped being 'new' in the sense that they have already '*produced the ordinary*' (Amin and Thrift, 2002: 103, original emphasis). This shift from celebrating new media infrastructures and terminals as 'phantasmagoric' icons of mobility and transcendence, to assumed and increasingly invisible systems, has three elements.

First, new media technologies are becoming so miniaturized and embedded into the artefacts of daily urban life – cars, toys, homes, streets, etc – that they often become less visible as separate artefacts and are

experienced more subtly through their fusion into the wider material culture of urban society.

Second, new media technologies are becoming less visible, more diffused and socially normalized at a metaphorical level, because they are no longer novel or unusual. Thus, in the wake of the dot.com crash and a wave of accountancy scandals and bankruptcies, discourses about new media technologies in the press no longer simply pump out uncritical utopian and deterministic discourses in which society is metaphorically and primarily linked with the impacts of technology. A more balanced discourse is emerging, in which new media technologies are seen as ambivalent and problematic.

Third, attention is moving from spaces that *are* covered by new media infrastructures and connectivities, to those which are not. For example, the UK press no longer concentrates on city spaces that have been wired by CCTV or broadband. Instead, concern shifts to the uncovered spaces, as the notion of not being covered by the widening array of new media infrastructures and services becomes problematized. Such a shift is a key part of the social normalization process and tends to occur in waves. Wi-Fi services, for example, are still novel enough for press attention to focus on the covered premium spaces – airports, university campuses, coffee shops, etc – rather than the uncovered ones.

This process of banalization is nothing new. It has occurred with previous generations of urban material infrastructures. Electricity, water, lightning and sewer systems, for example, were widely celebrated in the 19th century and early 20th century as icons of modernity, progress and the technological sublime. However they, too, became widely diffused, normalized and taken-for-granted and so were gradually veiled beneath the urban scene, both physically and metaphorically, as the 20th century progressed. Now they are 'black boxed' and socially invisible (as long as they work): few stop to think, or care, where their water or electricity comes from or where their wastes go when they flush the toilet (see Kaika and Swyngedouw, 2000).

Address the growing invisibility of sociotechnical power

Therefore, through this three-sided process, new media technologies are being woven so completely into the fabric of everyday urban, social and economic life that they, in turn, are becoming more and more ignored in cultural and media discourse. At this point, paradoxically, technologies are more important than ever. For at this time, the sociotechnical configurations of politics, representation, spatiality and power that tend to be embodied by, and perpetuated through them, tend to be even harder to unearth and analyse. The sixth and final key research challenge, then, is to be acutely conscious of the growing invisibility of sociotechnical power in contemporary societies.

This is a critical challenge because of the growing importance of truly opaque and invisible systems of social control that are based on the continuous use of automated software in order to mediate all sorts of social relations. Increasingly, the politics of new technologies becomes a politics of code. This is happening as social judgements and discriminations, embedded into software on one side of the world, become adopted to rank or prioritize rights, mobilities and access to a huge range of goods, services or entitlements on the other (see Lyon, 2002; Thrift and French, 2002).

Most of these reconfigurations of sociotechnical power are absolutely hidden. For example, people telephoning call centres can now be queued differentially through Call Liner Identification (CLI) phone systems linked to databases, which together are used to make instant judgements about whether they are 'good' or 'bad' customers. Thus people can wait very different times before they are answered. This happens without either the 'winners' or 'losers' in the process having any idea that such prioritization is underway. Similar prioritizations are also now occurring in electronically-charged city and highway road space, the commercial sifting and ranking of internet packets, and the privatization of city streets in malls, gated communities and secessionary business enclaves (with the help of facial recognition CCTV). The worry, then, is that a complex and subtle process of social and spatial 'splintering' is occurring in many contexts, as the politics of code fuse with an increasingly pervasive and punitive global neoliberalism (Graham and Marvin, 2001).

Note
1 This comment piece draws on some of the text in the introduction to Graham (2003).

References

Amin, A. and N. Thrift (2002) *Cities: Reimagining the Urban*. Cambridge: Polity.

Bolter, D. (1995) 'The Social Construction of Telepolis', mimeo.

Bolter, J. and R. Grusin (2000) *Remediation: Understanding New Media*. Cambridge MA: MIT Press.

Cosgrove, D. (1996) 'Windows on the City', *Urban Studies* 33(8): 1495–8.

Coyne, R. (1995) *Designing Information Technology in the Postmodern Age.* Cambridge, MA: MIT Press.

Gates, W. (1995) *The Road Ahead*. London: Hodder and Stoughton.

Graham, S. (1999) 'Global Grids of Glass: on Global Cities, Telecommunications and Planetary Urban Networks', *Urban Studies* 36(5–6): 929–49.

Graham, S. (2000) 'Constructing Premium Networked Spaces: Reflections on Infrastructure Networks and Contemporary Urban Development', *International Journal of Urban and Regional Research* 24(1): 183–200.

Graham, S., ed. (2003) *The Cybercities Reader*. London: Routledge.

Graham, S. and S. Marvin (1996) *Telecommunications and the City: Electronic Spaces, Urban Places.* London: Routledge.

Graham, S. and S. Marvin (2001) *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition*. London: Routledge.

Haythornthwaite, C. and B. Wellman (2002) 'Moving the Internet Out of Cyberspace', in B. Wellman and C. Haythornthwaite (eds) *The Internet and Everyday* Life, pp. 3–44. Oxford: Blackwell.

Jowett, G. (1993) 'Urban Communication: the City, Media and Communications Policy', in P. Gaunt (ed.) *Beyond Agendas: New Directions in Communications* Research, pp. 41–56. Westpoint, CT: Greenwood Press.

Kaika, M. and E. Swyngedouw (2000) 'Fetishising the Modern City: the Phantasmagoria of Urban Technological Networks', *International Journal of Urban and Regional Research* 24(1): 122–48.

Kaplan, C. (2002) 'Transporting the Subject: Technologies of Mobility and Location in an Era of Globalization', *Proceedings of the Modern Language Association of America* 117(1): 32–42.

Lyon, D. (2002) *Surveillance as Social Sorting: Privacy, Risk and Automated Discrimination*. London: Routledge.

Mandlebaum, S. (1986) 'Cities and Communication: the Limits of Community', *Telecommunications Policy* (June): 132–40.

Munt, S. (2001) *Technospaces: Inside the New Media*. London: Continuum.

Negroponte, N. (1995) *Being Digital*. London: Hodder and Stoughton.

Shabi, R. (2002) 'The E-wasteland', *Guardian Weekend*, 30 November, p. 36.

Thrift, N. and S. French (2002) 'The Automatic Production of Space', *Transactions of the Institute of British Geographers* 27(4): 309–35.

Toffler, A. (1980) *The Third Wave*. New York: Morrow.

Townsend, A. (forthcoming, 2004) 'Learning from September 11th', in S. Graham (ed.) *The Cybercities Reader*. London: Routledge.

STEPHEN GRAHAM is Professor of Urban Technology at Newcastle University's School of Architecture, Planning and Landscape. His research develops critical and sociotechnical perspectives to the reconfiguration of cities and technologies. He is the co-author of *Telecommunications and the City* (Routledge, 1996), *Splintering Urbanism* (both with Simon Marvin, Routledge, 2001), editor of the *Cybercities Reader* (Routledge, 2003), and co-editor of *Managing Cities* (Wiley, 1995) and a book forthcoming in 2004, *Cities, War and Terrorism* (Blackwell).
Address: Global Urban Research Unit, School of Architecture, Planning and Landscape, 3rd Floor, Claremont Tower, University of Newcastle upon Tyne, Newcastle upon Tyne, NE1 7RU, UK. [email: s.d.n.graham@ncl.ac.uk]