

[Sonia Livingstone](#)

Interactive, engaging but unequal: critical conclusions from internet studies

Book section

Original citation:

Livingstone, Sonia (2010) Interactive, engaging but unequal: critical conclusions from internet studies. In: Curran, James, (ed.) Media and Society. Bloomsbury academic, London, UK, pp. 122-142. ISBN 9780340984451

© 2010 [Bloomsbury Academic](#)

This version available at: <http://eprints.lse.ac.uk/48949/>

Available in LSE Research Online: July 2014

LSE has developed LSE Research Online so that users may access research output of the School. Copyright © and Moral Rights for the papers on this site are retained by the individual authors and/or other copyright owners. Users may download and/or print one copy of any article(s) in LSE Research Online to facilitate their private study or for non-commercial research. You may not engage in further distribution of the material or use it for any profit-making activities or any commercial gain. You may freely distribute the URL (<http://eprints.lse.ac.uk>) of the LSE Research Online website.

This document is the author's submitted version of the book section. There may be differences between this version and the published version. You are advised to consult the publisher's version if you wish to cite from it.

Original Citation:

Livingstone, S. (2010) Interactive, engaging but unequal: Critical conclusions from internet studies. In Curran, J. (Eds.), *Media and Society* (122-142). London: Bloomsbury.

**Interactive, Engaging but Unequal:
Critical Conclusions from Internet Studies****Sonia Livingstone**

Department of Media and Communications
London School of Economics and Political Science
Houghton Street, London WC2A 2AE
Tel. 0207 955 7710
Email s.livingstone@lse.ac.uk

Acknowledgements: The ideas expressed in this chapter have benefited from critical discussion with my colleagues and students, especially David Brake, Ranjana Das, Ellen Helsper, Eun-Me Kim, Ursula Meier-Rabler, Shani Orgad, Toshie Takahashi and Yinhang Wang. The material in this chapter draws in part from that published in Livingstone, S. (2009), *Children and the Internet* (Polity Press).

Telling the story of the internet

In technological terms, the story of the internet - a decentralized, global communications network mediated by the convergence of information, computing and telecommunications - seems to occasion less controversy than the social and political story of the internet. Thus by contrast with any social analysis, a fairly straightforward story may be told which traces this technological innovation back to the 1960s, while recognising the longer histories of telecommunications from the nineteenth century onwards and the invention of computing in the twentieth. Key moments include ARPANET's first decentralized communications network in 1969, the introduction of email in 1975, followed by usenet and bulletin board services, the many interim innovations born of interactions between scientists and hackers in the 1970s and Unix users' tradition of the 'open source movement' during the 1980s. It was the development of hypertext language by Tim Berners-Lee in 1989, followed by the first client browser software in 1991, that led to the world wide web and so brought the internet widespread recognition beyond the technological elite, as championed by US Senator Al Gore's 'national information infrastructure' (the NII) in the early 1990s.

Following this, Microsoft introduced (or privatized) the internet for the mass market with the Windows browser Microsoft Explorer in 1995, and the internet became the most rapidly diffused technology in media history (Rice & Haythornthwaite, 2006), widely used among businesses and public elites in Western societies by the mid 1990s

(Castells, 2002). Since then, platforms have become more mobile, converging with other technologies (including the telephone, television, games machine and more), and there have been vast increases in speed, scale, content, applications and complexity, rendering the internet now highly convergent, almost global and, more controversially, more commercialised. Although recent years have seen little technological change in the internet's core infrastructure, for social scientists the internet is associated with rapid social, political, economic and cultural changes as it has become widely used and significantly embedded in almost every dimension of society. At the time of writing, 91% of Norwegians, 76% of Japanese, 74% of Americans, 76% of Britons and 66% of Germans are online, although there remain many parts of the world where access is low or absent. The usage website, internetworldstats.com, charts continued growth worldwide (its world estimate in December 2009 was 26%), though in wealthy countries, while the varieties of access and use continue to diversify, adoption is reaching a plateau.

It is, then, unsurprising that the social shaping and social consequences of the internet have occasioned huge speculation and debate not only in academic and policy circles but also among the wider public. Much of this is still framed through the polarised rhetoric of optimism versus pessimism that casts 'the internet' as either saviour or villain, transforming society for better or for worse. But increasingly, critical analysis and empirical research combine in the recognition that understanding the social significance of the internet is a far more complex matter, which necessitates not only a focused examination of the social shaping and social consequences of the internet but also a more wide-ranging examination of the society that shapes it and lives with its consequences. Such examination reveals some crucial challenges facing the internet precisely because of its astonishing success - problems of scale and capacity, of network architecture and infrastructural robustness, of international legal and regulatory frameworks, and of public trust, security and e-crime. It also reveals political tensions over whether merely to observe or rather to deplore the degree to which the once-anarchic internet is subject increasing privatisation, commercialisation and control. And there is a rising disappointment that many of the much-vaunted opportunities – the internet's potential to revitalise democracy, re-motivate learners, overcome social exclusion and enhance global understanding – are far from coming to pass (yet).

Critical approaches to studying the internet and society

As producers of, and commentators on, the body of knowledge regarding the internet in society, the academy contributes to public debates over social and technological change from a position of independence, as is its prerogative, arguably also its responsibility. Since claims about current developments as well as deliberations over future changes are greatly contested, it is as well to begin by identifying the critical practices by which academic researchers may demonstrate, and be held accountable for, their independence. In what follows, I identify three varieties of critique, briefly summarised by the questions – what's really going on, how can this be explained, and how could things be otherwise?

First, 'analytic critique', by which I refer to the value of a necessarily cautious and sceptical analysis of any and all claims, especially when they concern the supposed transformation of society. Signed up to surely by all academics, standing back and asking "what's really going on?" prioritises the critical examination of influential

claims, the careful checking of claims against rigorous evidence, and the impartial identification of mistakes, qualifications or biases. At times dismissed by the public as hair-splitting pedantry, for the critical scholar all elements of a claim – from its semantics and logic to the methods employed to gather and weigh relevant evidence – must be open to cross-examination if research is to avoid being swayed by moral panics or rushing down blind alleys or reinventing the wheel. In relation to the internet, this critical question most often takes the form of asking, “what’s really new?” Although the dramatic sense that ‘we are, it seems, always on the cusp of a new sociality’ (Golding, 2000: 166) undoubtedly brings attention, resources and talent to the research agenda, over and over again research findings tell a different story. Indeed, as this chapter will show, although huge amounts of money are spent on equipping workplaces and homes with computers, laptops, mobiles and associated kit, and hours are spent communicating with others not physically present, it is difficult to demonstrate convincingly that the internet has dramatically transformed health, politics, childhood, education or other dimensions of society in significant ways.

This sceptical analytic lens leads most scholars to argue for evolutionary rather than revolutionary change, recognising historical continuities as much if not more than breaks with the past. To those convinced they could not live without the internet, such an approach may seem overcautious – perhaps Webster (2006: 444) goes too far when he rejects the term ‘information society’ (though not the importance of information) because, he argues, the case has not been established that ‘quantitative increases in information lead to qualitative social changes’. boyd & Ellison (2007) would disagree, arguing that online communication is qualitatively distinct in being persistent, searchable, replicable and anonymous, this permitting new kinds of ‘networked publics’. Still, caution remains appropriate, for the history of media in society is littered with failed projections regarding the social consequences of technological innovations (Marvin, 1988; Winston, 1996). The social consequences of print, for example, became evident only after the centuries of change, beginning with the invention of the printing press in the fifteenth century, playing a key role in the Protestant Reformation in Europe through the sixteenth and seventeenth centuries, and then with the achievement of mass literacy, via mass education, in the eighteenth and nineteenth centuries (Luke, 1989). The social consequences of television are only now seriously being debated half a century on (Katz and Scannell, 2009). The ‘internet revolution’, if such it is, is supposedly occurring on an even faster scale, as much hyped by technologists, business and, it must be said, by governments. The difficulty for research lies in balancing the imperatives of intellectual and empirical rigour with the demand of producing timely findings and recommendations to contribute to public and policy agendas.

Second, ‘explanatory critique’, by which I mean to point to critical argumentation within the academy centred on contrasting positions, competing theories or alternative explanations. Regarding the social significance of the internet, one argument has dominated the research agenda, taking off from the recognition that, at least in some ways and to some degree, the internet is indeed associated with something ‘new’. This is the argument over technological versus social determinism – in short, the debate between those who ask, what is the internet doing to society and how does it impact on people’s lives, and those who ask instead, why have we made the internet as we did and what are we doing with it? Technological determinism is, after several decades, largely though not entirely routed out of the social sciences, but it remains

the assumption behind much public policy associated with social uses of the internet and, thereby, finds its way also into research funding decisions. As Raymond Williams noted, ‘in *technological determinism*, research and development have been assumed as self-generating. The new technologies are invented as it were in an independent sphere, and then create new societies or new human conditions’ (Williams, 1974: 13). So, rather than casting technological innovation as the cause and society as the effect, social science should instead challenge the singularity of ‘the internet’ by recognising it as a social rather than a technological construct, opening up ‘the black box’ to identify the social and political processes embedded in its very design.

Thus, following Williams, social studies of technology have revealed how ‘the technological, instead of being a sphere separate from social life, is part of what makes society possible – in other words, it is constitutive of society’ (MacKenzie & Wajcman, 1999: 23; see also Bijker, Hughes, & Pinch, 1987). To counter the claims of technological impact or determination, Woolgar (2002: 14-19) proposes five ‘rules’ for understanding developments in what he calls, with a deliberate question mark, the ‘virtual society?’, all of which counter the popular assumption that the online and offline are mutually opposed, disconnected (Orgad, 2007). These rules are, first, the importance of contextualization, namely that ‘the uptake and use of the new technologies depend crucially on local social context’; second, the assumption of inequality, that ‘the fears and risks associated with new technologies are unevenly socially distributed’; third, the consistent empirical evidence against displacement of the real, for ‘virtual technologies supplement rather than substitute for real activities’; fourth, the counter-intuitive observation, ‘the more virtual the more real’, based on empirical findings that the growth of online activities/spaces has in unexpected ways intensified, remediated or stimulated innovation also in offline activities and spaces; and fifth, contra claims about the death of distance, since efforts to transcend the local and promote the global turn out to depend on specific local practices and identities, ‘the more global the more local’.

On the one hand, these rules indeed characterise empirical findings across a range of domains (the internet and – health, politics, childhood, education, etc.), but on the other, they make little or no reference to the specifics of the technology itself and so risk replacing technological determinism with an equally simple sociological determinism. Yet ‘everything that is important is what happens in the mediations, which dissolves these dualisms’ (Miller, Slater, & Suchman, 2004: 79). Hence researchers are now seeking a conceptual language that transcends opposed determinisms in order to recognise how the internet neither ‘determines’ nor simply ‘impacts’ but does, nonetheless, enable certain social possibilities and impede others. Mansell (2002) writes of the social biases configured into technology, Hutchby (2001) adapts the ecological notion of affordances to explain how technologies guide use, Lessig (1999) points to how code inscribes cultural norms and institutional imperatives into technology in such a way as to configure use. As Agre (2004: 27) puts it, ‘every system affords a certain range of interpretations, and that range is determined by the discourses that have been inscribed into it’. The critic’s task, therefore, is to identify the discourses that frame, the affordances built in, and also the social uses of technology – expected and surprising - that result in particular empirical contexts.

Critical research on the internet and society has, therefore, concluded that one must acknowledge the importance of both social shaping and social consequences (Lievrouw & Livingstone, 2006a). As Castells (2002: 4) observes, on the one hand ‘people, institutions, companies, and society at large, transform technology, any technology, by appropriating it, by modifying it, by experimenting with it’ and, on the other, ‘core economic, social, political, and cultural activities throughout the planet are being structured by and around the Internet’ (p.3). In explaining the significance of the internet, neither claim can be studied satisfactorily in isolation from the other. Many but by no means all researchers then take a further step, the third and most contested form of critique, which ‘situates technology within the underlying unequal power relationships that exist in society’ (Warschauer, 2003: 209) in order to identify possibilities for improvement. This is to go beyond the identification and explanation of societal change associated with the internet to ask whether such changes are or could be democratic, even emancipatory or, alternatively, do they primarily reinforce and extend the interests of established power, whether commercial or state, to the detriment of the public interest and the public sphere.

This practice of ideology critique, focused on first revealing the workings of power under global capitalism and, then, using this knowledge to enable alternative arrangements in society, divides the academy in a manner reminiscent of Lazarsfeld’s (1941) original characterisation of the two schools of communication research many decades ago. Here critical research differs from what Lazarsfeld called ‘administrative research’ in that the latter takes its agenda from, and produces recommendations useful for, public (and even commercial) policy, while the former maintains a critical distance from established institutions of all kinds. Over the past half century, the politics of social science has been hotly debated, with researchers on both sides ‘policing’ this crucial boundary. Administrative research defends its usefulness in improving conditions within society, accusing critical research of an anti-capitalist agenda that transgresses the independence of the academy. Critical research is committed to revealing and countering the institutional processes that reinforce elite interests over those of ordinary citizens (McChesney, 2003), accusing administrative researchers of being co-opted in the maintenance of an anti-egalitarian status quo. In recent years, the heat in this debate has dissipated somewhat, and a normative turn discernable across the social sciences is uniting many on both sides in a broadly social democratic effort to shape the internet so as to increase digital inclusion, enhance global communication and strengthen the public sphere (Nyre, 2009).

To show these processes of critical research in action, and to focus the remainder of the chapter, I will develop two case studies, each of which has absorbed considerable research attention in recent years and each of which lives up to my title of showing how social uses of the internet are, by and large, interactive, engaging but unequal. I leave the reader to develop other case studies and to compare the conclusions that emerge with those that follow.

Case 1: From the digital divide to digital inclusion

Since ‘exclusion from [online] networks is one of the most damaging forms of exclusion in our economy and in our culture’ (Castells, 2002: 3), concern over the gap between the internet or digital ‘haves and have-nots’ has focused research and policy on the barriers to the supposed opportunities afforded by the internet. The ‘digital divide’ can be conceived at all levels of analysis from the global, where economic and

political barriers distinguish the digital infrastructure of developed and developing countries, to the national, where such factors as geography, socio-economic status and ethnicity prove crucial, and then to the household or domestic level, where gender and age (or generation) stratify access and use. These different levels invite different empirical projects, from the cross-national comparison of economic flows, governance structures and labour trends in information and related sectors (e.g. Norris, 2001), to the examination of national information infrastructure policies and implementation together with surveys of internet access and use across diverse population segments (e.g. Rice & Haythornthwaite, 2006), down to micro level ethnographic studies of the meanings and practices of internet access and use in the home, school, community or workplace (e.g. Silverstone, 2006).

Several phases can be distinguished in the developing research agenda. Until the late 1990s, the focus was on who has or has not access to the internet, tracking the internet's diffusion path (Rogers, 1995) from its take up by privileged, early adopters through to mass adoption. The implicit assumption in this binary approach was that the internet represents a public and economic good to which all citizens have the right of access, as advocated during the 1990s by the USA's Information Infrastructure Task Force and, in Europe, by the Bangemann Report (Liff, Steward, & Watts, 2002). Notwithstanding critical challenges to this neo-liberal assumption (e.g. Golding, 2000), this research strongly informed the policy agenda. For example, in the UK, the government announced a target of getting 'everyone online' by 2005, while in the US and elsewhere, resources were devoted to stop people 'falling through the net' (Compaine, 2001).

The next phase of research, however, revealed that such efforts somewhat reduced but by no means closed the divide between digital haves and have-nots, because the goal posts were themselves shifting. Consistent with long-term social scientific theories of information and knowledge gaps, the provision of resources was found to alter *absolute* levels of provision (more people gained internet access) but was less successful in altering *relative* levels of provision (for the already-advantaged also moved ahead, gaining faster broadband, mobile access, and so forth). Those arguing that the digital divide would close if left to market forces (e.g. Compaine, 2001) were overruled by growing evidence of new kinds of digital inequality (Selwyn & Facer, 2007). Indeed, based on a substantial cross-national review of findings, Norris (2001) concluded that increasing internet penetration serves to exacerbate rather than reduce inequalities, precisely because the internet is unlike simple media and consumer goods in which a more-or-less stable technology diffuses from the early adopters to the mass market. For the internet, the 'chameleon-like capacity of digital technologies to morph, converge, and reappear in different guises' (p.17) maximises the conditions for maintaining socio-economic distinctions.

Research therefore refocused on 'the new technological divide' (Castells, 2002), now reconceptualized as a continuum (Livingstone & Helsper, 2007), with 'degrees of marginality' (Murdock, 2002: 387), this also pluralizing 'the' divide as a number of different divides or dimensions of difference. Policy also refocused its efforts, no longer solely concerned to provide an infrastructure 'for everyone' but also concerned to 'compensate' for social inequalities by targeting the specifically disadvantaged. Relabelled policies emerged for redressing digital exclusion, shifting the stress from equality to equity. For, although providing everyone with equal access is not feasible in a fast-moving, commercial context in which access is largely privatized within

homes and workplaces, seeking to ensure that everyone has a fair chance at digital, and thereby social, inclusion seemed more achievable. Researchers and policy makers collaborated to design, implement and evaluate a host of often local pilot projects and other initiatives that offered internet access and skills-training targeted at inner-city or rural locations, or such marginalized groups as the young, the elderly, ethnic minorities, the disabled (Phipps, 2000). Although some exciting and creative projects resulted, these remain difficult to scale up, and valiant attempts to share best practice can be undermined by the difficulties encountered. Digital inclusion initiatives proved highly resource intensive, uncertain as to their purpose, often underused and difficult to sustain (Liff et al, 2002). While it became ever more clear ‘access is not enough’, understanding how ‘the ability to access, adapt, and create new knowledge using new information and communication technology is critical to social inclusion in today’s era’ (Warschauer, 2003: 9), so as to redress persistent barriers, remains a challenge.

The present phase of research and policy is less consensual. Efforts continue to build universal infrastructure, especially for broadband and mobile provision. Efforts also continue to overcome disadvantage by linking policies for digital inclusion with those for social inclusion (and so addressing the digital implications of public policy spanning education, employment, community, health, crime, and so forth). Increasingly, researchers ask not only about ‘access and use where, how and to what?’ but also ‘so what?’ Access for the sake of access is meaningless, using the internet *per se* is only purposeful if it provides a route to engaging with society more broadly – and purposes are always, in one sense or another, political. Warschauer (2003) shows that marginalized groups only successfully gain internet-related skills and literacies when they come together for a community-based project meaningful to their circumstances – not simply to learn to use a computer, but rather to use computing and other resources in order to address the neighbourhood crime problem, or create a student newspaper or mobilise some form of civic action. This empirical lesson points the way to a rights-based approach to communicative entitlements. Mansell (2002: 419) stresses the important of supporting and extending human capabilities, by which she points neither to absolute levels of technological provision nor to simply to individuals’ motivation to communicate, but rather to the gap between what people should be able to achieve (‘the freedom of citizens to construct meaningful lives’) and what they can, in practice, achieve (their capabilities, variously enabled or constrained by technological, socioeconomic and symbolic resources).

The dominant metaphor in the digital divide debate has been that of a race. Some get ahead, others get left behind, and the necessity of running seems taken for granted. But the gains waiting at the winning post remain unclear, and it has not been established that running this race is preferable to other routes to inclusion (e.g. tackling poverty or improving education or strengthening the public sphere). Moreover, as research findings show, ‘the persistence of familiar patterns of social structure and experience’ (Golding, 2000: 180) means that even if everyone can be helped to finish the race, still some have better running shoes, more training and so get there first. As Norris (2001: 17) concludes, ‘even if the basic digital divide shrinks gradually over time, it is naïve to believe that the virtual world can overturn fundamental inequalities of social stratification that are endemic throughout postindustrial societies, any more than it is likely to overcome world poverty’ (see also Van Dijk, 2005, on ‘the deepening divide’). Nonetheless, both researchers and policy makers continue to devote efforts to identifying the conditions under which

internet access and use may enhance digital inclusion and so enable the many opportunities afforded by the internet – learning, literacies, creativity, networking, participation, commerce and much more (Livingstone, 2008). In each case, however, it should not be forgotten that, as empirical findings have shown over and over again, at all levels from global to national to individual, that ‘social context, social purpose, and social organization are critical in efforts to provide meaningful information and communication technology access’ (Warschauer, 2003: 201).

Case 2: Online participation, e-democracy and e-government

Once people are online, of all the potential benefits on offer, the prospects for facilitating political engagement have perhaps occasioned the most optimism (Bennett, 2008; Coleman, 2007). It is argued that ‘internet access has become a basic entitlement of citizenship in the digital age’ (Murdock, 2002: 386), and being without it creates not only a digital divide but also a ‘democratic divide’ (Norris, 2001: 12). Although mass communication certainly informs citizens, critics have long questioned its use and abuse of the power to address national, even international publics (Curran & Seaton, 2009), especially given the historical correlation between increased dominance of mass media and declining voter participation, party loyalty and civic commitments (Putnam, 2000). Notably, the internet simultaneously incorporates but also bypasses established (elite) channels for political communication – arguably its very structures seem more democratic, responsive to the many criticisms levied at the hierarchical model of representative democracy long institutionalised in western societies (Bentivegna, 2002). By contrast, the internet’s heterarchical, self-governing, peer-based informality favours inclusive deliberation, disintermediation, open contestation, multiple and marginal voices, transparency of processes, accountability of authorities, all of which promise to re-empower citizens and mobilise new communities, social movements and alternative political formations locally and globally. Many argue, therefore, that ‘the emergence of the internet presents... the possibility of a qualitative shift in the practice of political communication, as significant for the pre-millennial 1990s as TV was for the 1960s... [with] hitherto unprecedented possibilities for citizens’ deliberation and public input to decision-making processes’ (Coleman, 1999: 69).

Worldwide there has been an explosion in projects and initiatives – at global, national and, most often, local levels – to exploit the potential of the internet to draw citizens into civic participation and so enhance democratic participation (Tsagarousianou, Tambini, & Bryan, 1998) or even, post Habermas (1989), to create an online public sphere (Dahlgren, 2005). Many but not all of these are located in the ‘wired’ West, since in non-democratic regimes such as China, Cuba, Singapore, governments seek to restrict or censor online political deliberation (Graber, Bimber, Bennett, Davis, & Norris, 2004). One early success was UK Citizens Online Democracy in 1997, which conducted the first online scrutiny of proposed government legislation (the Freedom of Information White Paper); one third of the many who participated were individual citizens, deliberating with each other and with the government minister responsible (Coleman, 1999). Another was the USA’s Move On campaign to persuade Congress to drop impeachment proceedings against Bill Clinton in 1999, mobilising half a million online messages sent by citizens to Congress (Graber *et al.*, 2004).

More recently, the unprecedented use of the internet in the Obama/McCain 2008 election in the USA raised such initiatives from mere local affairs to national

significance: 59% of voters took part in some sort of campaign activity online, with 44% sending or receiving campaign-related emails, 39% watching online political videos (notably on *YouTube*) and 37% visiting politically-oriented websites or blogs (Smith, 2008). While the success of the Obama campaign here is significant, it is also worth considering the relative failure of his opponents to mobilise support online to a similar degree – note too that in Italy’s 2004 elections for the European Parliament, one reason for Berlusconi’s defeat was said to be the 57m text messages he sent by mobile phone to citizens reminding them to vote (which they did, but for the opposition; BBC News Online, 2004). Thus many political scientists are exploring how traditional political elites are using, and might use, the internet to promote their political goals more effectively – for sure, much political activity of publicizing, mobilizing, informing, lobbying and consulting is now conducted online, but does this mean that politics is itself changed or, rather, that ‘politics as usual will probably prevail’ (Graber *et al.*, 2004: 97).

Taking an alternative approach, other research within new media and internet studies, is pursuing – both descriptively and prescriptively - the possibilities for online deliberation and active participation by the public in the political process. Well-researched instances include the Zapatistas in Mexico, who used the internet imaginatively and effectively to organize, disseminate, and stimulate grass roots activism for a previously-marginalized cause, and the international protest in Seattle in 1999 over the globalization policies of the World Trade Organization (Kahn & Kellner, 2004). Indeed, ‘new web forms of design, such as web logs and wikis, have evolved the internet’s hypertextual architecture, even as such online phenomena as hacker culture, terrorism, and internet militancy have emerged from the technical-fringe to become a central feature of everyday life on the world wide web’ (p.88), resulting in the ‘permanent campaign’ (for example, against Nike’s exploitative labour practices, or against Microsoft’s anticompetitive business strategies) characteristic of networked politics in late modernity (Graber *et al.*, 2004).

Yet others are firmly embedded in the local. Rakow’s (1999) account of a ‘televillage’ in North Dakota, USA provides valuable lessons for the democratising potential of the internet in community decision-making, though her story ended depressingly when, in a secret business deal, the local (commercial) paper took over the (public) city website. In the Blacksburg Electronic Village (Kavanaugh & Patterson, 2002) the internet was used effectively to mediate local, social capital-building activities, but – as turns out to be a common limitation of such initiatives - those most involved were precisely the already-engaged; the internet did not, and often does not, provide a new conduit for widening participation. For Jankowski (2006), this was because the wired community had been constructed top-down by local elites, positioning ordinary residents as consumers rather than citizens from the start. But even when online community is organized in a more inclusive, democratic fashion as a virtual public sphere, it seems that familiar social patterns are reasserted online: in the Digital City Amsterdam, ‘one of the largest online communities in the world’ (Slevin, 2000: 68), citizens mainly transferred offline norms online in order to govern this space (limiting space for each ‘resident’, banning pornography, vandalism, harassment, etc), rather than developing new and original forms of social organization.

While the foregoing broadly concerns citizens’ relation to the political agenda, whether framed top-down by governments or bottom-up by local or citizen activism,

an emerging subfield of research concerns use of the internet to improve the delivery of governmental services at local and national levels. Stepping aside, then, from the advancement of avowedly political agendas, e-government refers to the use of 'digital technologies to improve public services and government-citizen engagements' (Eynon & Margetts, 2007: 1). Here the assumption is that, since people have already appropriated the internet into their working and domestic lives, and since most internet users transact purchases online (this indicating that the internet has achieved a degree of trust and reliability), it would be desirable (- preferable, convenient, cheaper) for both citizens and governments for the internet to facilitate a wide array of both information provision (e.g. regarding transport, schools, local services, etc) and direct transactions (e.g. obtaining health advice, filing tax returns, and more).

Yet progress has been slower than hoped by policy makers, leading Eynon & Margetts to investigate seven barriers to adoption of eGovernment in the UK, from leadership failures, lack of investment, organisational inflexibility, poor coordination and poor technical design on the part of government through to lack of digital resources or competences and lack of trust on the part of the public. Their proffered solutions – to create a network of eGovernment champions, to segment service users and treat them in ways distinctive to their context and needs, and to encourage digital literacy among the public – are all promising but, as with other initiatives in this field, yet to be evaluated as effective. The establishment of the directgov portal in 2004 (with a strapline of 'Public services all in one place') was a key development, unique to the UK, that sought to bring some coordination to what the National Audit Office (2007: 5) described as 'ten or more years of un-coordinated growth of government websites'. Nonetheless, this and similar initiatives internationally remain what Undheim (2008) calls 'on a knife-edge between success and failure'. As Kolsaker & Lee-Kelley's (2008) survey of the public found, while government ambitions remain high, many users are simply uninterested in changing their present means of accessing government services and, especially, are sceptical that the internet can provide an effective vehicle for democratic engagement (see also Dawes, 2008).

Adding top-down e-Government efforts as described above to the broader focus on electronically mediated relations between citizens and state (sometimes, but not consistently, labelled e-Governance), what can we conclude? Critical responses to the evidence of abundant online provision, information and even deliberation are increasingly ambivalent and, as in the digital divide debate, the early hyperbolic claims for the transformative potential of the internet to right the contemporary ills of democracy have been superseded. As Poster (2001: 175) puts it, the internet affords 'new positions of speech, empowering previously excluded groups and enabling new aspects of social life to become part of the political process', but at the same time, 'the age of the public sphere... as a homogeneous space of embodied subjects in symmetrical relations, pursuing consensus through the critique of arguments and the presentation of validity claims ... is clearly over' (p.181-2). And the 'new forms of decentralized dialogue', the 'new individual and collective "voices"' (p.182) may be both emancipatory and pernicious.

The online public sphere, if such it is, leads particularly to the multiplication of 'public sphericules' (Gitlin, 1998) and a 'fragmentation into micro-publics' (Cammaerts, 2008: 359), including the proliferation of cliques that exclude, extremists fomenting hostility to others, and, most common, the banal reproduction of platitudes,

misunderstandings and the trivia of everyday life. Against those who hope citizen participation on the internet can revitalise democratic engagement on a significant scale, Cammaerts observes evidence for five distinct problems that characterise the blogosphere. At the macro level, he notes, first, colonization by the market (witness Google's takeover of Blogger.com and Blogspot.com as well as YouTube, and the consequent flooding with overt and covert marketing, and struggles over copyright and freedom of expression). Second, he charts growing censorship by states, organisations and industries (on political, moral and commercial grounds). Third, he observes the appropriation of the blogosphere by political and cultural elites (this reinstating hierarchies of authority within the so-called heterarchy of the internet and transforming disinterested communication into persuasion, even propaganda). At the micro level, social control by citizens (with online intimidation by others resulting in self-censorship or even withdrawal) and anti-democratic voices (with abusive representations of others and attacks on democratic values) or even anti-publics (Dayan, 2005) can also undermine the online public sphere (Caiani & Wagermann, 2009; Daniels, 2008). Rather than giving up on the ideals held out for online participation, Cammaerts (2008: 359) calls for a robust response to the associated problems, thereby calling up 'the image of agonistic and even antagonistic public spaces (Mouffe, 1999), which are inherently conflictual and where (productive) power is constitutive of the political'.

In conclusion, it seems the jury is still out over whether the internet primarily represents a new tool for established political elites to extend their persuasive armoury or, perhaps, to improve their appeal through a more participatory approach to the public; or is it the emerging challenge to traditional politics, through online social movements, civic activism and alternative modes of deliberation that is the more striking? There is evidence for both, but not enough on either side. Nonetheless, we might note that, despite her earlier-cited cautions, Norris (2001) concludes on a note of cautious optimism, not because a ringing endorsement of e-democracy is yet possible, but because of the encouraging if tentative evidence that the internet permits a more open space for debate among a wider diversity of political actors, amplifying small voices that might otherwise not be heard, facilitating rapid, flexible responses to events, ready sharing of information both locally and globally, and some critical challenges to the establishment. After reviewing 79 e-democracy projects in newly democratic countries, Coleman and Kaposi (2009) are also cautiously optimistic, though they note that only some of these initiatives are proving successful, many are not and even successful projects are difficult to sustain

The jury is also still out on whether the internet affords new possibilities for the public sphere, whether conceived in Habermasian (rational-critical, consensus-oriented) or more agonistic, conflictual or fragmented terms. Again, there is evidence for both, though the balance of evidence perhaps is more weighted to the latter, leading Golding (2000: 176) to conclude, pessimistically, that 'individualisation, unequal access, and disenfranchisement may be the outcome of net politics'. If this depressing outcome is to be avoided, as was also evident from efforts to improve digital inclusion, e-democracy initiatives of all kinds will require considerable resources (energy, time, technology, funding) to start up and, especially, to sustain. They also require commitment from political elites if they are not to become 'merely' a discussion among citizens, for it remains a particular challenge to link the outcome of public deliberation (on or offline) to political action or community consequences

(Hampton & Wellman, 2002). Judgements focused less on process than on political outcome lead McChesney (1996: 108) to worry that ‘the issue here is not whether a citizen-based, nonprofit sector of cyberspace can survive in the emerging regime... rather, the key issue is whether the nonprofit, noncommercial sector of cyberspace will be able to transform our societies radically for the better’. As Coleman and Kaposi (2009: 324) observe ruefully, ‘although most of the projects in our case studies claimed to be opening up the policy process, it was hard to find specific examples of policies, agendas or legislation which changed as a result of online input from citizens.’ Indeed Horrocks (2009) argues that, on the contrary, it is the power of consultants (with IT, marketing and ‘e-participation’ expertise) rather than that of citizens that has been expanded. In seeking a more positive way ahead, then, Chadwick (2009: 40) invites public bodies to build on their enthusiasm for e-democracy initiatives so as to ‘provide mechanisms that connect the granular information environments of web 2.0 citizen activity with “real” policy-making.’

In short, two key problems remain as future challenges. First, can the internet be used to widen participation, not simply providing an additional route for the already-engaged to deliberate or mobilise further, but also to include more ordinary citizens, including also the variously marginalised or disaffected? And can this be done in a way that impedes the co-option of such citizen activity into an ‘internet prosumer commodity’ (Fuchs, 2009). Second, can democratic measures be developed to address the anti-democratic voices that oppose, drown out or otherwise undermine online deliberation, transforming potentially democratic spaces into authoritarian, reactionary or extreme ones? Ultimately, to return to the importance not only of social consequences but also of social shaping, the potential of the internet to be ‘democratic’ will depend not on whether it is ‘inherently democratic’ but whether it is as democratic as we, society, can make it.

Conclusions: Studying the internet and ‘internet studies’

The nature and pace of technological and social change complicates research on the social shaping and consequences of the internet. The world wide web is expanding exponentially (though search is increasingly concentrated in the power of one company, Google); newsgroups and chat rooms have lost popularity to blogs and social networking; e-commerce was slower to take off than expected but email proved the opposite, an unexpected ‘killer application’ now complemented by instant messaging; gaming technologies have morphed into virtual worlds from Second Life to Club Penguin; increasingly powerful mobile and convergent devices extend business and consumer markets; and the internet’s global reach poses yet further challenges. ‘The internet’, in short, poses a moving target for research, policy and the public.

A parallel story to that of the internet itself can be told about the emergence of ‘internet studies’, however this multidisciplinary field may be labelled. Though the struggles for control are not quite so hotly fought nor the stakes so high, this emergent field of research is, like the internet itself, by no means a settled intellectual endeavour. Its disciplinary roots are diverse, its concepts barely formulated, its methods still experimental and its politics much contested. Along the way, the social significance of the internet has become tied to the rich vein of multidisciplinary discussion centred on concepts of the information society (or knowledge society or network society), along with debates over global governance, prospects for

cosmopolitanism, new social movements, dispersed and experimental identities, the end of mass media, the transformation of face-to-face communication and revitalization via e-everything (consider e-commerce, e-learning, e-government and e-literacy).

So, as a technology, the internet demands analysis within the specialist fields of computer, technology and information sciences. But as a social phenomenon, the internet necessarily invites analysis from any and all of sociology, political science, anthropology, psychology, economics, the arts, linguistics, cultural studies, feminist studies and, perhaps most enthusiastically claiming the internet for its own, media and communication studies. It is here that some degree of institutionalisation of research is most evident. Early on, the *Journal of Communication* featured a symposium on the internet in 1996, with editors Newhagen and Rafaeli already arguing for a complex, empirically grounded analysis of the internet. The *Journal of Computer-Mediated Communication*, begun in 1996, proved quickly successful, spawning the new subfield of computer-mediated communication (Thurlow, Lengel, & Tomic, 2004), *Information, Communication and Society* began in 1998, *New Media and Society* in 1999, and many others followed. The first international conference of the *Association of Internet Researchers (AoIR)* brought these diverse fields together face-to-face (as well as online) in 2000, significantly based in media and communications studies as it struggled to move beyond its traditional focus on 'mass communications'. But paradoxically, wider recognition of the importance of the internet can only undermine 'internet studies' as other disciplines generate their own knowledge, conferences and subfields of study related to the internet.

Wellman (2004: 124) described the first 'age of internet studies' as 'punditry rides rampant', an optimistic celebration of the transformative potential of the internet during the mid 1990s, peppered with dystopian prognostications from the sceptics. Around the time of the dotcom bust at the turn of the twenty-first century, the second age turned to a more serious engagement with evidence, seeking to document users and uses of the internet, while as Wellman and Haythornthwaite (2002: 4) put it, current research studies the internet 'as it descends from the firmament and becomes embedded in everyday life', thereby rejecting the early assumption of a separate domain, 'cyberspace', clearly distinct from the 'real world'. The hope is that the present (third) age will succeed in moving 'from documentation to analysis' (Wellman, 2004: 27), since 'there is clearly an internet research generation in the making' (Castells, 2002: x). This generation is, understandably, interested in debating its own future – see, for example, the special issues of *New Media and Society* (vol. 6(1), 2004), *The Information Society* (vol. 21, 2005), Nissenbaum and Price (2004) and Consalvo and Ess's forthcoming *The Blackwell Handbook of Internet Studies*.

While questions of putative disciplinarity matter for the standing of research, along with its funding, reputation and the academic careers it can support (Jones, 2005; Sterne, 2005), ultimately researchers must be less concerned to ensure the distinctiveness of research expertise than to understand the distinctiveness of their research object. There have been many attempts to specify just what is interesting and significant about the internet, while seeking to avoid a definition likely to become quickly outdated. Following Lievrouw and Livingstone (2006a), I propose four key features, namely that the internet is interactive, networked, recombinant and ubiquitous.

The first and most obvious feature is *interactivity*, the means by which the internet and other new media ‘give users the means to generate, seek and share content selectively, and to interact with other individuals and groups, on a scale that was impractical with traditional mass media’ (Lievrouw & Livingstone, 2006b: 25). The prefix, co-, is increasingly used to signal the peer-based nature of online interactivity – with co-produced, collaborative, collective content production the most startling innovation enabled by the internet. McMillan (2006) distinguishes three forms of interactivity: user-to-user (email, chat, message boards), user-to-documents (the world wide web), and user-to-system (human-machine interfaces including games, search engines and educational software). Although even these forms are now becoming blurred – social networking and blogging, for instance, combine all of these – the different relations between producers and users remain significant. User-to-user interactivity positions the user as participant in an on-going interaction with another user; it thus resembles the oldest forms of communication – speech, though also writing; and the model of bi-directional communication among equals is salient at least as an ideal. User-to-documents and user-to-system interactivity both draw more strongly on mass communication in that the producer-consumer relation is dominant and the main (though not the sole) flow remains from one to many. Indeed, user-to-user interactivity mediating the internet’s ‘killer applications’, ‘most new media configurations favour exclusive electronic spaces for commercial activity and a ‘broadcast’ mode of authoritative information provision in the non-commercial sphere’ (Mansell, 2002: 422).

Second, also marking a major shift from mass communication in the ‘mass society’, ‘the point-to-point ‘network’ has become accepted as the archetypal form of contemporary social and technical organization’, with the term *network* referring to ‘a broad, multiplex connection in which many points or ‘nodes’ (persons, groups, machines, collections of information, organizations) are embedded’ (Lievrouw & Livingstone, 2006b: 24). This fits with a society increasingly structured according to a ‘network of networks’ (Castells, 2002). It is consonant with Bell’s ‘post-industrial society’, defined as ‘the emergence of a new economic order characterized by the central importance of information and theoretical knowledge, and by a shift from a goods-producing to a service society’ (Golding, 2000: 169) that is in some ways more horizontally organised and less hierarchical, permitting the flexible specialisation of knowledge production and the regulatory processes of self-governance (rather than top-down supervision) characteristic of late modernity. The organisation of communication through networks specifically challenges the dominant ‘one-to-many’ frame of mass communication by adding in also one-to-one, some-to-some and many-to-many communication. This puts mass communication into its place, historically speaking, as a particular feature of the past century or so and it makes visible the continuities from previous centuries to today (Darnton, 2000).

Third, and more subtle perhaps is the answer to the puzzle that online media appear simultaneously extraordinarily new and yet not radically different from the past (Jankowski, Jones, Samarajiva, & Silverstone, 1999): the internet is best characterised as *recombinant* – it reconfigures or remediates, so that older media (and the social practices associated with them) are appropriated, refashioned or absorbed by the new (Bolter & Grusin, 1999). Thus, ‘new media systems are products of a continuous hybridization of both existing technologies and innovations in interconnected technical and institutional networks’ (Lievrouw & Livingstone, 2006b: 23). As

Castells (2002: 1) says of networks, and as we might also say of education, communication or participation, none of this is inherently new to history but they 'have taken on a new life in our time by becoming [mediated by] information networks, powered by the internet'. Or as McLuhan (1994: 8) said, 'the "content" of any medium is always another medium... the "message" of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs' – hence the continuously emergent nature of media as they enhance, reverse, retrieve, or make obsolete earlier forms and systems. This also helps to explain its vibrancy and creativity, for old forms and contents are more easily remixed than they are invented anew (Jenkins, 2006), and as Poster (2006) argues, the greater openness or underdetermination of interactive media particularly distinguishes them from the controlled standardisation of mass media technologies and content.

Fourth, and perhaps most powerful if less obvious, *ubiquity*. This is not to imply that all members of all societies use the internet, or even know of it, for of course many do not or cannot. Rather the argument is that the very existence and operation of the internet is changing society not only for those online but also for those offline, albeit differently. In wealthy societies certainly, 'banking systems, utilities, education, law enforcement, military defence, health care and politics ... are all dependent on extensive ICT systems for record-keeping, monitoring and transmitting information – activities that affect anyone who deals with these services or activities' (Lievrouw & Livingstone, 2006b: 25). But even beyond those wealthy societies, public and private sector reliance on personal information databases alters service provision both for those included and excluded. Pricing and availability of goods and services are increasingly cheaper or easier online, the effect being further to disadvantage those offline. Digital exclusion does not only mean missing out on the possible advantages of being online: economic, political and social conditions are altered offline by the very existence of the online, and this in turn gives the online a new significance. The offline may become less included, more expensive, but possible benefits also emerge as the online domain expands – more face-to-face communication and strong ties, less marketing and surveillance. In this way too, the effects of the internet are indeed ubiquitous.

Taken together, these features explain how the internet mediates a radical extension of human abilities to communicate across time and space, so enabling a greatly increased degree of connectedness, for better and for worse, among social actors world-wide. Specific features of the internet will, of course, date quickly, although the above have been phrased as generally as possible in an attempt to capture the broader information and communication ecology or infrastructure (Star & Bowker, 2006). Infrastructures, as we argued in Lievrouw & Livingstone (2006a), encompass three core components: first, the *artefacts* or devices used to communicate or convey information, this raising questions of technology, materiality, design and innovation; second, the *activities* and practices in which people engage to communicate or share information, this raising questions of social and cultural contexts of use; and third, the social *arrangements* or organizational forms that develop around those devices and practices, this raising questions of how new media technologies and practices are organized and governed.

From the point of view of media studies, this rethinks the familiar but different three-part framework of production-text-audience. However, artefacts, activities and arrangements are deliberately proposed as broader terms that then invite detailed work

to establish their technological, cultural and historical specificities and contingencies in any particular study. Significantly, unlike the processual linearity long established in mass communication research (from sender through message to receiver), a linearity that the mass communication tradition has spent decades struggling with, and, more recently, unpicking, in internet and new media research no such linear assumption is necessary. Rather, it is the mutual dependencies, and consequent dispersal of power, among these three elements that raises fascinating questions about the internet's mediating role in society. Yet it seems that, as evident from the case studies developed in this chapter, critical and empirical research has been more successful in tracking the (re-)emergence of familiar cultural norms, social conventions and established hierarchies of power than they have in documenting radical or alternative forms of communication, community and power, except among elite minorities. Thus it is already clear that society is shaping the internet in its own image. Whether and how the internet also affords social uses and social consequences of a more radical nature remains to be seen.

References

- Agre, P. (2004). Internet research: For and against. In M. Consalvo et al. (Ed.), *Internet Research Annual, Volume 1* (pp. 25-36). New York: Peter Lang.
- BBC News Online (2004). Anchor deals Berlusconi nasty blow (15/06/04), <http://news.bbc.co.uk/1/hi/world/europe/3810439.stm>
- Bennett, W. L. (2008). Changing Citizenship in the Digital Age. In W. L. Bennett (Ed.), *Civic Life Online: Learning How Digital Media Can Engage Youth* (Vol. 1, pp. 1-24). Cambridge: The MIT Press.
- Bentivegna, S. (2002). Politics and new media. In L. Lievrouw & S. Livingstone (Eds.), *The Handbook of New Media* (pp. 50-61). London: Sage.
- Bijker, W. E., Hughes, T. P., & Pinch, T. (Eds.). (1987). *The Social Construction of Technological Systems*. Cambridge, MA: MIT Press.
- Bolter, J. D., & Grusin, R. (1999). *Remediation: Understanding New Media*. Cambridge, Mass: MIT Press.
- boyd, d., & Ellison, N. (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, 13(1), article 11.
- Caiani, M., & Wagermann, C. (2009) Online networks of the Italian and German extreme right: an explorative study with social network analysis. *Information, Communication & Society*, 12(1): 66-109.
- Cammaerts, B. (2008). Critiques on the participatory potentials of Web 2.0. *Communication, Culture & Critique*, 1(4), 358-377.
- Castells, M. (2002). *The Internet Galaxy*. Oxford: Oxford University Press.
- Chadwick, A. (2009) Web 2.0: new challenges for the study of e-democracy in an era of information exuberance. *I/S: A Journal for Law and Policy for the Information Society*, 5(1): 9-42.
- Coleman, S. (1999). The new media and democratic politics. *New Media and Society*, 1(1), 67-73.
- Coleman, S. (2007). E-Democracy: the History and Future of an Idea. In D. Quah, R. Silverstone, R. Mansell & C. Avgerou (Eds.), *The Oxford Handbook of Information and Communication Technologies* (pp. 362-382). Oxford: Oxford University Press.

- Coleman, S., & Kaposi, I. (2009) A study of e-participation projects in third-wave democracies. *International Journal of Electronic Governance*, 2(4): 302-327.
- Compaine, B. M. (Ed.). (2001). *The Digital Divide: Facing a Crisis or Creating a Myth?* Cambridge MA and London: MIT Press.
- Curran, J., & Seaton, J. (2009). *Power without responsibility: The press and broadcasting in Britain*. London: Routledge.
- Dahlgren, P. (2005). The Internet, public spheres, and political communication: Dispersion and deliberation. *Political Communication*, 22(2), 147-162.
- Daniels, J. (2008). Race, Civil Rights, and Hate Speech in the Digital Era. In A. Everett (Ed.), *Learning Race and Ethnicity: Youth and Digital Media* (Vol. 5, pp. 129–154). Cambridge: The MIT Press.
- Darnton, R. (2000) An Early Information Society: News and the Media in Eighteenth-Century Paris. *The American Historical Review*, 105(1): 1-35.
- Dawes, S. S. (2008). The evolution and continuing challenges of E-Governance. *Public Administration Review*, December: S86-S102.
- Dayan, D. (2005). Mothers, midwives and abortionists: genealogy, obstetrics, audiences and publics. In S. Livingstone (Ed.), *Audiences and Publics: When Cultural Engagement Matters for the Public Sphere* (pp. 43-76). Bristol: Intellect Press.
- Eynon, R., & Margetts, H. (2007) Organisational solutions for overcoming barriers to eGovernment. *European Journal of ePractice*, 1(November): 1-13.
- Fuchs, C. (2009) Information and Communication technologies and society: A contribution to the critique of the political economy of the internet. *European Journal of Communication*, 24(1): 69-87.
- Gitlin, T. (1998). Public sphere or Public Sphericules? In T. Liebes & J. Curran (Eds.), *Media, Ritual and Identity* (168-175). London: Routledge.
- Golding, P. (2000). Forthcoming features: Information and communications technologies and the sociology of the future. *Sociology*, 34(1), 165-184.
- Graber, D. A., Bimber, B., Bennett, W. L., Davis, R., & Norris, P. (2004). The internet and politics: Emerging perspectives. In H. Nissenbaum & M. E. Price (Eds.), *Academy and the Internet* (pp. 90-119). New York: Peter Lang.
- Habermas, J. (1989). *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*. Cambridge: The MIT Press.
- Hampton, K. N., & Wellman, B. (2002). The not so global village of Netville. In B. Wellman & C. Haythornwaite (Eds.), *The Internet in Everyday Life* (pp. 345-371). London: Blackwell.
- Horrocks, I. (2009). ‘Experts’ and e-government: Power, influence and the capture of a policy domain in the UK. *Information, Communication & Society*, 12(1): 110-127.
- Hutchby, I. (2001). Technologies, texts and affordances. *Sociology*, 35(2), 441-456.
- Jankowski, N. W. (2006). Creating community with media: History, theories and scientific investigations. In L. Lievrouw & S. Livingstone (Eds.), *The Handbook of New Media: Updated Student Edition* (pp. 55-74). London: Sage.
- Jankowski, N., Jones, S., Samarajiva, R., & Silverstone, R. (1999). Editorial. *New Media and Society*, 1(1), 5-9.
- Jenkins, H. (2006). *Convergence Culture: Where old and new media collide*. New York: New York University Press.
- Jones, S. (2005). Fizz in the field: Toward a basis for an emergent internet studies. *The Information Society*, 21, 233-237.

- Kahn, R., & Kellner, D. (2004). New media and internet activism: From the 'battle of seattle' to blogging. *New Media and Society*, 6(1), 87-95.
- Katz, E., and Scannell, P. (2009) (eds.), The end of television? Its impact so far. *The Annals of the American Academy of Political and Social Science*, 625 (whole issue).
- Kavanaugh, A. L., & Patterson, S. J. (2002). The impact of community computer networks on social capital and community involvement in Blacksburg. In B. Wellman & C. Haythornwaite (Eds.), *The Internet in Everyday Life* (pp. 325-344). London: Blackwell.
- Kolsaker, A., & Lee-Kelley, L. (2008). Citizens' attitudes towards e-government and e-governance: a UK study. *International Journal of Public Sector Management*, 21(7): 723-738.
- Lazarsfeld, P. F. (1941). Remarks on administrative and critical communications research. *Studies in Philosophy and Science*, 9, 3-16.
- Lessig, L. (1999). *Code, and Other Laws of Cyberspace*. New York: Basic Books.
- Lievrouw, L. A., & Livingstone, S. (2006a). Introduction to the updated student edition. In *Handbook of new media: social shaping and social consequences of ICTs* (pp. 1-14). London: Sage.
- Lievrouw, L. A., & Livingstone, S. (2006b). Introduction to the first edition (2002). In *Handbook of new media: social shaping and social consequences of ICTs* (pp. 15-32). London: Sage.
- Liff, S., Steward, F., & Watts, P. (2002). New public places for internet access: Networks for practice-based learning and social inclusion. In S. Woolgar (Ed.), *Virtual Society? Technology, cyberbole, reality* (pp. 78-98). Oxford: OUP.
- Livingstone, S. (2008) Internet literacy: Young people's negotiation of new online opportunities. In T. McPherson (Ed.), *Unexpected outcomes and innovative uses of digital media by youth* (101-121). MacArthur Foundation Series on Digital Media and Learning, Cambridge, Mass: The MIT Press.
- Livingstone, S., & Helsper, E. J. (2007). Gradations in digital inclusion: Children, young people and the digital divide. *New Media and Society*, 9, 671-696.
- Luke, C. (1989). *Pedagogy, Printing and Protestantism: The Discourse of Childhood*. Albany, NY: State University of New York Press.
- MacKenzie, D., & Wajcman, J. (Eds.). (1999). *The Social Shaping of Technology* (2nd ed.). Buckingham: Open University Press.
- Mansell, R. (2002). From digital divides to digital entitlements in knowledge societies. *Current Sociology*, 50(3), 407-426.
- Marvin, C. (1988). *When Old Technologies Were New*. New York: Oxford University Press.
- McChesney, R. W. (1996). The internet and U.S. communication policy-making in historical and critical perspective. *Journal of Communication*, 46(1), 98-124.
- McChesney, R. W. (2003). Theses on media deregulation. *Media, Culture and Society*, 25(1), 125-133.
- McLuhan, M. (1994). *Understanding Media: The Extensions of Man*. Cambridge: MIT Press.
- McMillan, S. (2006). Interactivity: Users, documents, and systems. In L. Lievrouw & S. Livingstone (Eds.), *The Handbook of New Media: Updated Student Edition* (pp. 205-229). London: Sage.
- Miller, D., Slater, D., & Suchman, L. (2004). Anthropology. In H. Nissenbaum & M. E. Price (Eds.), *Academy and the Internet* (pp. 71-89). New York: Peter Lang.

- Mouffe, C. (1999) Deliberative democracy or agonistic pluralism? *Social Research* 66(3): 746–758.
- Murdock, G. (2002). Review article: Debating digital divides. *European Journal of Communication*, 17(3), 385-390.
- National Audit Office (2007). *Government on the internet: progress in delivering information and services online. Report by the Comptroller and Auditor General*. London: National Audit Office.
- Nissenbaum, H., & Price, M. E. (Eds.). (2004). *Academy and the Internet*. New York: Peter Lang.
- Norris, P. (2001). *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*. Cambridge: Cambridge University Press.
- Nyre, L. (2009) Normative media research: Moving from the Ivory Tower to the Control Tower. *Nordicom Review*, 30(2): 3-17.
- Orgad, S. (2007). The interrelations between ‘online’ and ‘offline’: questions, issues and implications. In R. Mansell, C. Avgerou, D. Quah & R. Silverstone (Eds.), *The Oxford Handbook of Information and Communication Technologies* (514-537). Oxford: Oxford University Press.
- Phipps, L. (2000). New communications technologies: A conduit for social inclusion. *Information, Communication and Society*, 3(1), 39-68.
- Poster, M. (2001). *What's the Matter with the Internet?* Minneapolis: University of Minnesota.
- Poster, M. (2006). Consumers, users, and digital commodities. In *Information Please: Culture and Politics in the Age of Digital Machines* (pp. 231-249). Durham, NC: Duke University Press.
- Putnam, R. (2000). *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster.
- Rakow, L. F. (1999). The public at the table: From public access to public participation. *New Media and Society*, 1(1), 74-82.
- Rice, R. E., & Haythornthwaite, C. (2006). Perspectives on Internet use: Access, involvement and interaction. In L. Lievrouw & S. Livingstone (Eds.), *The Handbook of New Media: Updated Student Edition* (pp. 92-113). London: Sage.
- Rogers, E. M. (1995). *Diffusion of Innovations* (Vol. 4). New York: Free Press.
- Selwyn, N., & Facer, K. (2007). *Beyond the digital divide: Rethinking digital inclusion for the 21st century*. Bristol: Futurelab.
- Silverstone, R. (2006). Domesticating domestication: Reflections on the life of a concept. In T. Berker, M. Hartmann, Y. Punie & K. J. Ward (Eds.), *The Domestication of Media and Technology* (pp. 229-248). Maidenhead: Open University Press.
- Slevin, J. (2000). *The Internet and Society*. Cambridge: Polity.
- Smith, A. (2008) *From BarackObama.com to Change.gov: Those Active in the Obama Campaign Expect to be Involved in Promoting the Administration*. Washington, DC: Pew Internet & American Life Project.
- Star, L., & Bowker, G. (2006). How to infrastructure. In L. Lievrouw & S. Livingstone (Eds.), *The Handbook of New Media: Updated Student Edition* (pp. 230-245). London: Sage.
- Sterne, J. (2005). Digital media and disciplinarity. *The Information Society*, 21, 249-256.
- Thurlow, C., Lengel, L., & Tomic, A. (2004). *Computer Mediated Communication: Social Interaction on the Internet*. London: Sage.

- Tsagarousianou, R., Tambini, D., & Bryan, C. (Eds.). (1998). *Cyberdemocracy: technology, cities, and civic networks*. London: Routledge.
- Undheim, T. A. (2008). Best practices in eGovernment: on a knife-edge between success and failure. *European Journal of ePractice*, 2(February): 1-24>
- Van Dijk, J. (2005). *The Deepening Divide, Inequality in the Information Society*. London: Sage.
- Warschauer, M. (2003). *Technology and social inclusion: rethinking the digital divide*. Cambridge, Massachusetts: MIT Press.
- Webster, F. (2006). The information society revisited. In L. Lievrouw & S. Livingstone (Eds.), *The Handbook of New Media: Updated Student Edition* (pp. 443-457). London: Sage.
- Wellman, B. (2004). The three ages of internet studies: Ten, five and zero years ago. *New Media and Society*, 6(1), 123-129.
- Wellman, B., & Haythornthwaite, C. (2002). *The Internet in Everyday Life*. Oxford: Blackwell.
- Williams, R. (1974). *Television: Technology and Cultural Form*. London: Fontana.
- Winston, B. (1996). *Media Technology and Society: A History - From the Telegraph to the Internet*. London: Routledge.
- Woolgar, S. (2002). Five rules of virtuality. In S. Woolgar (Ed.), *Virtual Society? Technology, Cyberbole, Reality* (pp. 1-22). Oxford: OUP.