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Modernity, mobility and the digital divides

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Abstract

The phrase 'digital divide' has been crucial over the last ten years in focusing attention and resources on the issues of access to and use of ICT, including e-learning, by a succession of excluded and marginal individuals and communities. This paper argues however that this is now a dangerously simplistic notion, especially in societies characterised by the postmodernity that has been catalysed by increasing mobility. The paper provides an introduction to some of the ideas and issues.

What exactly are digital divides?

The digital divide has a considerable history as a rhetorical device to provoke thinking about disadvantage in relation to equity, inclusion and access on the one hand and technology, computers in particular, on the other. David Gunkel defines the digital divide as, "the gap separating those individuals who have access to new forms of information technology from those who do not." (2003: 1). As Gunkel in this quote does not say exactly *which* new forms of information technology or exactly *which* individuals, such a definition would probably receive a consensus from the various academic, political and commercial stakeholder communities each with their respective interests and agendas. It is however a point of departure in our discussion. Curiously the term itself has an uncertain genesis but one Larry Irving, who was the US Department of Commerce's Assistant Secretary for Communications and Information and responsible for the first official use in a government report, says in a post to a digital divide discussion list,

> "I am certain I stole the term, but I am not certain who I stole it from. Jonathan Webber of the Industry Standard makes a compelling case that somewhere back around 1995 he and Amy Harmon (when both were with the LA Times) invented the term to describe the social division between those who were very involved in technology and those who were not. I believe I first heard the term in the late '95/early '96 timeframe at a conference in a western state, Montana, North Dakota or South Dakota." (Digitaldivide, 2001: 2)

Whatever its origins, we must recognise that the idea of digital divides has probably been instrumental in focusing attention and in unlocking resources and funding, and that it continues to reinvent itself with every new technology and for more and more communities and constituencies. Neil Selwyn of London Knowledge Lab reviews the history of the concept and identifies its roots in the political concerns of Western Europe and North America,

"In many ways the digital divide can be seen as a practical embodiment of the wider theme of social inclusion, which was recently prominent in policy-making throughout centre–Left governments in western nations. Throughout the 1990s, countries such as the UK, France and the Clinton/Gore-era US witnessed a subtle shift towards a socially-inclusive policy agenda. Indeed, the issue of combating social exclusion and establishing an 'inclusive society' now forms a bedrock of academic and political discourse in many countries. Yet, one of the most intriguing aspects of recent social policy formation in countries such as the UK has been the convergence of the information society and inclusive society discourses into ongoing popular and political debates over the potential of ICTs to either exacerbate or alleviate social exclusion…" (2004:4)

but then Selwyn says, "… while substantial policies are being put into place to combat the digital divide, much of the surrounding debate remains conceptually oversimplified and theoretically underdeveloped." (2004:4). This lack of clarity and definition can be seen easily, with a Google Scholar search on 'digital divide' quickly pulling up academic articles on 'rural America ', 'Asia', 'gender', 'People with Disabilities', 'A Case Study in Egypt', 'cross-country differences', 'Race', 'vulnerable populations', 'Non-Metropolitan-Metropolitan', 'A civil rights issue', 'in Europe', 'In the Liberal State', 'Low-Income, Urban Communities' and so on, illustrating that digital divides have been conceived around gender, class, region, ethnicity, the global North/South, rurality/urbanity and many other attributes, categories and dimensions. BECTA comment on this multiplicity of divides saying, "....the term is often employed in a generalised way that masks its complex and diverse nature. This detracts from more informed and coherent debates surrounding its existence and extent. The definition has become unclear, and it is recognised that there are now multiple 'digital divides' (2001: 3) and later, "As the range of ICT and its capabilities increase, what constitutes a 'digital divide' and how to measure it become unclear. It is possible to dispute the size, characteristics and reality of its existence, and hard to clearly measure any progress made in reducing disparities. Clearer definitions and measurement criteria are needed in order assess the effectiveness of policies and initiatives. The absence of such criteria can leave policy initiatives open to criticism and difficult to defend." (2001:4). This shows digital divides to be problematic even at a practical and pragmatic level.

Why are digital divides a bad idea?

In reviewing the digital divide literature, many approaches makes digital divides an artefact of the relationships between society and technology. One of these is manifest in the 'diffusion of innovations' (Rogers, 2003) literature in which digital divides are merely the outcome of some innovation not having yet 'trickled down'; another similar approach sees digital divides as a purely technical problem, perhaps the outcome of defects in the supply chain, needing a merely technical (or management) fix. This tendency to analyse from a technical perspective, to take the approach that things are improving and that knowledge, science and technology will be instrumental in progress is broadly characteristic of much Western thought since the Enlightenment and is often termed modernism or modernity. As Anthony Giddens (1990) says "As a first approximation, let us simply say the following: 'modernity' refers to modes of social life or organisation which emerged in Europe from about the seventeenth century onwards and which subsequently became more or less worldwide in their influence." Some of its philosophical foundations include logical positivism, empiricism and rationality. These are held together by over arching beliefs that enquiry will reveal the essence of the natural, physical and social worlds and this essence can be described objectively by sets of symbols, ideally mathematics but perhaps by language. As Mitchell (2003) points out,

> "Modern technological innovations, such as the steam engine, the railroad, electricity, and medicine, fostered in Western secular thought a strong sense of optimism. "Much of the extravagant hope generated by the Enlightenment project derived from a trust in the virtually limitless expansion of new knowledge of – and thus enhanced power over – nature" (Marx, 1994, p. 239). Driving this sense of confidence in technology were the mounting breakthroughs in knowledge and discoveries. "The expected result was to be a steady, continuous, cumulative improvement in all conditions of life".(Marx, 1994 p. 240). As modern perspectives gave way to postmodern perspectives, optimism for technology faded as well. Late in the twentieth century, attitudes toward technology had changed considerably.".

Modernism is being described here as giving way to *postmodernism,* not an easy concept to competently define, not least because its many manifestations may be linked only as a reaction to modernism, and to a range of cultural and intellectual movements growing out of a century of global warfare and the perceived inadequacy of the dominant and *isms* of the preceding two centuries. Butler (2002) gives some insight into the problem of definition, saying, "postmodernists ... do not simply support aesthetic 'isms', or avant-garde movements such as minimalism or conceptualism ... They have a distinct way of seeing the world as a whole, and use a set of philosophical ideas that not only support an aesthetic but also analyse a 'late capitalist' cultural condition of 'postmodernity'. This condition is supposed to affect us all, not just through avant-garde art, but at a more fundamental level, through the influence of that huge growth in media communications by electronic means ....And yet, ...most information is to be mistrusted, as being more of a contribution to the manipulative image-making of those in power than to the advancement of knowledge. The postmodernist attitude is therefore one of suspicion ......" (2002:3) and later, "one central theme is ... 'realism lost'" (2002:110). The suspicion and the loss are about a faith that words, such as *digital divide*, really do describe (rather than construct) reality. Interestingly, in the current context, (Butler, 2002: 117), says that, "The Internet is at present a typically postmodern phenomenon – it is (currently) a non-hierarchized, indeed disorganised, collage." and Wikipedia in its entry on *postmodernity* breaks it into two phases, saying,

> "The second phase of postmodernity is visible by the increasing power of personal and digital means of communication, including fax machines, modems, cable, and eventually high speed internet. This led to the creation of the new economy, whose supporters argued that the dramatic fall in information costs would alter society fundamentally...Internetworking in particular has altered the condition of postmodernity dramatically: digital production of information allows individuals to manipulate virtually every aspect of the media environment, from the source code of their computers, to the Wikipedia project itself. This condition of digitality has brought producers of content in conflict with consumers over intellectual capital and intellectual property."

This paper takes up these themes by making the assertion that mobility, the fact that personal mobile devices are ubiquitous, pervasive and universal, is part of changes taking society from modernity to postmodernity and thus to a condition where the language of the digital divide is too naïve, too simple.

Furthermore, we argue that the progress of digital divides through a succession of categories, such as gender, ethnicity, race, class, region and so on, is an example of standpoint epistemology. Lyn Henderson (1994), as it happens an educationalist talking about interactive learning systems and cultural context, describes this as follows,

> "Standpoint epistemology also questions the assumption that 'the social identity of the observer is irrelevant to the "goodness" of the research asserting that the

> racism and sexism of western knowledge is both highly visible and damaging;...
> that [scientific] norms themselves appear to be biased in so far as they have
> been incapable of detecting ethnocentrism and androcentrism. Standpoint
> epistemology also challenges the belief that knowledge and politics can be
> divorced. It is argued that emancipatory politics can increase the objectivity of
> research and knowledge."

This in effect says that as modernism loses its authority, epistemology, originally supposed
to be an objective account of knowing expressed, for example, in the classification of reality,
becomes co-opted by specific interest groups or communities, each claiming to wrest it from
what is perceived to be a hegemonic establishment. Phrases such as digital divides then
get re-interpreted from the standpoints of each of these groups or communities. This
suggests that the idea of digital divides is no a good way to reason about disadvantage and
exclusion.

Mobility and digital divides

The second part of this paper argues that the near-universal access to and ownership of a
multitude of personal connected mobile devices (and systems and technologies) are
gradually, progressively but unmistakably transforming our societies, transforming our ideas
about identity, discourse, community, technology, knowledge, space and time, in ways
which suggest a transition to postmodernity, where conceptualising exclusion and
disadvantage around binary divisions, including digital divides, is simply no longer
adequate.

The ownership of this multitude of diverse personal connected mobile devices is nearly
universal in many of the world's societies. We see the relentless marketing and take-up of
each new gadget, network, system and connectivity and hear the statistics of music CDs
dying out in the face of mp3 downloads; of cameras outnumbered by camera-phones; of
nations where mobile phone ownership exceeds saturation and carries on growing and of
other nations sending a billion SMS texts in any normal week. These technologies have led
in under a decade to new forms of commerce, employment, crime, artistic expression,
political organisation and to new artefacts, commodities, resources and economic assets
that did not previously exist, forms with no recognisable antecedents before perhaps the
1990s. It is possible to catalogue examples of each of these categories but our point here is
that mobile devices are the symptoms and causes of societies in motion (not just literally).
This is true in societies in the so-called developed North and in societies in the so-called
developing South (another questionable dichotomy) and true across any other arbitrary
social, economic, political or geographical division.

These societies are changing profoundly; they are in fact becoming recognisably
postmodern societies. The purpose of this part of the paper is to explore the argument that
postmodernity characterises our societies and that therefore any analysis on the basis of
simple, polar binary dichotomies is no longer adequate. Evidence of this mobile emergent
postmodernity includes:

Mobile devices, and their technologies and systems, are eroding established notions of time
as a common structure. These seem to be largely European, perhaps Protestant, probably
Enlightenment notions. Kathryn Banks (2006) for example says, "... second half of the
sixteenth century in Geneva, there arose a new Protestant apprehension of time, which was
encapsulated in the valorization of punctuality" and "…the linear time re-appropriated to
favour the Calvinist emphasis on punctuality" (Worth-Stylianou, 2006) whilst now in its place
we see the 'approx-meeting' and the 'multi-meeting'(Plant, 2000), 'socially negotiated time'
(Sørensen *et al,* 2002) and the 'microcoordination of everyday life' alongside the 'softening
of schedules' (Ling, 2004) afforded by mobile devices.

Mobile devices are also eroding physical place as a predominant attribute of space. It is being diluted by "absent presence" (Gergen, 2002), the phenomenon of physically co-located groups all connected online elsewhere and "simultaneity of place" (Plant, 2002) created by mobile phones, a physical space and a virtual space of conversational interaction, and an extension of physical space, through the creation and juxtaposition of a mobile "social space".

Mobile devices are reconfiguring the relationships between spaces, public ones and private ones, and the ways in which these are penetrated by mobile virtual spaces. This is documented in the literature of mobilities. See for example Plant (2000), Katz & Aakhus (2002), Ling (2004) and Brown *et al* (2004) for accounts and instances. This is accompanied by what goes on in those spaces; Cooper (2002) says that the private "is no longer conceivable as what goes on, discreetly, in the life of the individual away from the public domain, or as subsequently represented in individual consciousness", Sheller and Urry (2003) argue "that massive changes are occurring in the nature of both public and private life and especially of the relations between them." and Bull (2005) says "The use of these mobile sound technologies informs us about how users attempt to 'inhabit' the spaces within which they move. The use of these technologies appears to bind the disparate threads of much urban movement together, both 'filling' the spaces 'in-between' communication or meetings and structuring the spaces thus occupied." Earlier work on the Sony Walkman came to similar conclusions, "the Walkman disturbed the boundaries between the public and private worlds" (Du Gay *et al* 1997: 115)

Mobile devices are redefining discourse and conversation. Goffman (1971), for example, noted the phenomenon of 'civil inattention', where in certain situations it is customary not only to not speak to others but to avoid looking directly at others. This management of gaze is one way in which the boundary between public and private is negotiated and is now often a characteristic of creating a private space for mobile phone conversations in a public setting; a similar concept is the 'tie-sign', those signs that keep a face-to-face encounter live and 'in play' whilst servicing an interruption caused by a mobile phone call. The recipient of the call is obliged to "play out collusive gestures of impatience, derogation, and exasperation" according to Goffman. Murtagh (2002) describes a wide set of non-verbal actions and interactions with the mobile phone in public) and these are part of a wider transformation of discourse and social interaction as society engages with mobile technologies.

Mobile devices are creating communities and groupings, sometimes transient and virtual ones, arguably at the expense of existing and traditional ones, captured in Howard Rheingold's (2003) defining book. With these groupings come new norms, expectations, ethics and etiquettes (for example, see Ling (1997, 2004) and Traxler (2007) for a discussion of ethics in a mobile context; and shifting ideas about the self and identity. Geser (2004:11) points out that, "the cell phone helps to stay permanently within the closed social field of familiar others: thus reinforcing a unified, coherent individual identity.

Mobile devices, as the media and containers of knowledge and information, are creating new and highly individualised ontologies, 'just-in-time/just-for-me' – learner/consumer choice turned into a 'neo-liberal nightmare', and fragmented learners in a 'fragmented society', to use Bauman's (2001) phrase in an accurate but narrower sense than he intended.

Mobile devices are converging with social software, accelerating the growth of user-generated content and decentralising and fracturing the production, storage, consumption and control of ideas and information (the growth of citizen-journalism (Owen, 2005) is one example; the recent migration of Wikipedia, Google and YouTube being others.

Mobile devices facilitate the generation of new knowledge, intruding a new dimension into the debate and dichotomy between utilitarian and liberal views of education, perhaps fragmenting or challenging the modernist notion of education as a meta-narrative; postmodernism's 'incredulity at meta [grand] narratives' (Lyotard, 1999) is important here in challenging this idea of a widely, if not universally, accepted canon that is education. This diversity of sources and authority for knowledge also increases uncertainty and hence unease, another key theme in accounts of postmodernity.

Mobile devices deliver knowledge and information in ways that challenge formal learning, its institutions and its professionals, specifically in their hegemonic roles as gate-keepers to disadvantaged individuals and communities to learning and technology

Mobile devices are creating new politics and political groupings, and are creating new and transformed notions of exclusion and disadvantage. Reinhold (2000) gives the definitive review of some of these groupings and Katz and Aakhus (2002) give one specific example, the protest actions against President Estrada in the Philippines.

Mobile devices provide increased levels of surveillance and oversight, even in the course of delivering and supporting learning. Many of the authors above cite Lyons (2001) in this respect, giving substance to the postmodern suspicion and mistrust.

These examples show widespread and far-reaching change taking place slowly but not imperceptibly across our society. They undermine the old certainties of knowledge, thought and language.

Discussion

In this account, we have used the phrase 'mobile devices' as a shorthand for mobile devices, systems and technologies; this is not only over-simplifying the diversity and transience involved but is also potentially an 'essentialist' position, a modernist assumption that all the various instances involved have some underlying unifying essence that allows us to reason about them. This is problematic. The phrase digital divide shows the same essentialising tendency but putting it in those terms actually only restates part of the earlier critique.

The account also misrepresents or over-simplifies the relationships between technology and society, by ignoring discourses about determinism in the relationships and portraying technology as 'causing' changes in society (and this takes us back in some sense to earlier remarks about the 'diffusion of innovations'). The dynamic between technology and society has actually been conceptualised in a variety of ways: the technical deterministic view, that technologies shape and mould societies; the opposing social deterministic view that technologies are continually reinterpreted by users and given new, perhaps unexpected directions and the arguably more balanced view of 'affordances', the view describing how the physical characteristics of an object interplay with the way in which we perceive and interpret the use of the object. Whilst the latter is the most balanced of the three, it is not without its shortcoming; it ignores the wider context of the objects and the culture of the user. Ling (2004) summarises these views and their difficulties and suggests a position that affordances are perhaps best in describing design issues – the concrete specifics of devices and technologies – and weaker at considering the broader social context. He argues however that a more serious criticism of affordances, in common with the other two views, is that they are essentially circular and tautological, in as much as if an object is used in a certain way, it must have the affordances to be used in that way. Hence we learn nothing but this society/technology debate does at least allow us to engage critically with digital divides without resorting to the radical positions of postmodernism.

A further complication is the debate about whether societies are indeed becoming postmodern. Alternative formulations include Giddens' (1990) 'high modernity', a formulation that seems to recognise the changes ascribed to mobility but not to label them as emergent postmodernism, and Bauman's (2000) 'liquid modernity', his term for the present condition of the world as contrasted with the 'solid' modernity that preceded it, a world in which nothing keeps its shape, and social forms are constantly changing at great speed, radically transforming the experience of being human. Neither of these positions necessarily undermines our account of mobility though they may affect the labels used.

Conclusion

Digital divides are constructing a world understood in terms of polarities and of opposites, whilst mobile devices are associated with societies each adapting and adopting their own languages and discourse, rather more fragmented and rather more complex than these over-arching binary divides. We must recognise the limitations of the digital divides discourse if we are to address issues of inclusion and access to ICTs.

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