

Keeping a Close Watch – The Rise of Self-Surveillance & the Threat of Digital Exposure

KINGSLEY DENNIS

Sociology Department, Lancaster University, Lancaster, UK

Digital technologies have given rise to increased occurrences of self-surveillance and forms of ‘virtual vigilantism’. This has progressed from key moments such as the video recording of the Rodney King incident, to recording human rights abuses, to citizen grassroots surveillance. From this has emerged the phenomenon known as citizen journalism where recent urban crises have been recorded on mobile phones by the individuals involved. Also on the increase are forms of mob vigilantism, or ‘participatory panopticon’; examples here include phone images spread over the Internet as severe forms of ‘community punishment’. I argue that these unmediated forms of bottom-up surveillance – *sousveillance* – show the early signs of a new type of civil responsibility that stands unregulated and without restraint. This paper addresses the issues of increased individualised self-surveillance and asks whether this is the consequence of a personalised resistance to an ever increasing surveillance society.

Keywords: digital technologies; self-surveillance; panopticism; *sousveillance*; mobile phones; citizen journalism.

Introduction

Modern times are now less about the dehumanisation within the industrial machine, as Chaplin so famously visualised, and more about the digitally rendered person enmeshed in a fabric and veil of data and code. This digitised fabric is characterised by a pervasive field of information, code, and signifiers that increasingly construct the social environments that mobile bodies pass through and negotiate. Near-constant surveillance of the person¹, both in public life and in private affairs has blurred boundaries between what is external and what is internal, between outer and inner freedom. The *fear of freedom* that has been noted as a feature of western capitalist society (Fromm, 1960) is in the process of becoming expanded into a *fear of security* in a way that maximises upon the availability of devices to match that need. This upcoming trend can be expressed as a need to record, store, and analyse one’s

social participation and mobility for security of self. It acts as both security and as an alibi towards future dataveillance intrusions (Clarke, 1994).

In this short paper I argue that surveillance is increasingly turning inwards – an *internalised surveillance* – that is part of a growing trend of decentralised practices of individual and group monitoring through portable hand-held devices, principally the mobile phone. Also, that this type of ‘sensing’ is heralded by some as a positive aspect that forms part of what is dubbed a ‘transparent society’ (Brin, 1998). However, as will be examined, such potential for the monitoring of our ‘selves’ has dark undertones and may constitute a growing *virtual-vigilantism*.

Civil Witness: In the Eye of the Camera

Perhaps one of the most memorable events in spectator recordings is the Rodney King case and the 1992 Los Angeles riots. On March 3rd 1991 the car Rodney King was driving was chased for 8 miles at a speed in excess of 100mph by California Highway Patrol on Interstate 210. When the vehicle finally came to a stop in Lake View Terrace King disobeyed police commands to lie down and met with a prolonged beating by LAPD officers that was videotaped by bystander George Holliday (Cannon, 1998). On April 29, 1992, when three of the officers were acquitted by a jury, the result sparked intense rioting in South Central Los Angeles which lasted for just under five days, with over 50 people killed, over 2000 injured, and more than 8000 arrested. It also cost the city more than \$900 million in property damages (Cannon, 1998). Significantly it heralded the power of the handheld video recorder to capture, store, and transmit images that could now be reproduced globally in almost an instant. In today’s age of mechanical/digital reproduction such images can retain their potency long after the event, and duplicated almost ceaselessly for continuing viewers/viewing.

The Rodney King case can be cited as a key moment in modern social history when the civil power of the mobile recorded image became recognised in the minds of the general public. It also gave out a message: that living in the eye of

the camera meant a person, people, institutions, and organisations were no longer insular and immune. Everyone now had to watch their back, literally, as people could learn how to play at being their own witness.

Soon after came the Witness Project with their slogan ‘See It, Film It, Change It’. *Witness* began in 1992 as a human rights group founded by artist Peter Gabriel with the purpose of exposing, through video footage, human rights abuses around the world and making these public and available to the appropriate authoritiesⁱⁱ. The Witness group provides cameras and training to partner groups worldwide for them to document and capture the images of abuse and suffering – a form of *digital witness*. Projects that have captured such abuses include the use of child soldiers in the ‘Democratic’ Republic of Congo; displaced peoples in Northern Uganda; crimes in Gambia; land rites of indigenous communities in Kenya; human rights in the Chechen Republic; and documenting abuses of rendition, torture, and disappearances in the ‘war on terror’ conducted in the US. The Witness Project collects footage from a network of dispersed amateur camera men and women and use this as proof against authorities abusing rights of power and security. It can be said that this project was a forerunner to the emergence of citizen journalism.

Citizen journalism is now a more exposed part of mainstream news coverage, and marks a growing convergence between the professional and amateur realms of reportage, as described by the recent Demos report ‘The Pro-Am Revolution: How enthusiasts are changing our economy and society’ (Leadbeater and Miller, 2005). This form of reportage blends on-the-ground citizen news collecting, analysing, and disseminating, with a form of participatory surveillance. In fact, citizen journalism is also known as ‘participatory journalism’ (Gillmor, 2004). Popular citizen journalist media sites include the *Independent Media Center*ⁱⁱⁱ (more famously known as Indymedia); the ‘Center for Citizen Media’^{iv}; and the South Korean *OhMyNews*^v where 80% of the content comes from freelance citizen contributors. Dan Gillmor, former mainstream journalist and author of *We the media* (2004), is a well-known proponent of citizen journalism and has helped to push this mode of citizen participation more into the mainstream.

Whilst this form of reporting has been criticised for lacking objectivity it is, importantly, a statement of participation from the bottom-up. This type of coverage that is enacted from individuals themselves has been termed as *sousveillance*.

Sousveillance: Inside the Social Panopticon

Sousveillance was coined by Mann (1998) who describes it as form of 'reflectionism' or as a 'watchful vigilance from underneath', which is a form of inverse surveillance. Yet it more than inverts the notion; it embellishes it with a self-reflective responsibility. For Mann, reflectionism 'holds up the mirror and asks the question: "Do you like what you see?"' (Mann, Nolan and Wellman, 2003). Also, in this form, it requires that surveillance is enacted as a form of self-control, as self-maintenance. It is the discipline of being inwardly secure; firstly vigilant towards the self; secondly towards other people/selves. This form of discipline seems to suggest that there is little room for negligence when watchfulness is the order of the day. Yet it also prompts the 'user' of sousveillance to be active and participate in the surrounding environment. Sousveillance, whilst it can encourage social responsibility, also suggests the need for the person to be guarded against unwanted intrusions and possible violations.

Mann went on to transmit, in the mid 90s, his daily life experiences for others to experience and interact with. This created opportunities for establishing a sousveillance network between Mann and his 'readers', or rather social network. This participatory/social panopticon into human-environment interactions was a forerunner to how 'wearable computing' might one day emerge as a form of modern 'intelligent image processing' (Mann, 2002). Mann's performance constructs a lived experience where the observation, recording, and dissemination of civic events have shifted towards a social panopticon, infiltrating daily physical encounters. It is a communal watchfulness of civil responsibility merged with a technical mandate for collective commentary, social analysis, and security of the self. It is also an

enactment of performance ethnography, at the same time playful with notions of socialisation and breaching norms (Mann, Nolan and Wellman, 2003).

Jamais Cascio, co-founder of *Worldchanging* and prominent futurist, has coined the term 'participatory panopticon' to denote a positive aspect of this self-monitoring. Cascio feels that people will become agents of their own monitoring where surveillance is an act done by choice rather than imposed through social institutions of power (Foucault, 1977). This thinking is based on the formulation that it is easy to alter images from a single camera yet somewhat less simple, but still possible, to alter the images from several cameras. Yet when you have images from dozens or even hundreds of digital cameras in the hands of citizen witnesses then the images take on a new force and power. This is also the basis behind David Brin's worthy yet optimistic notion of a 'transparent society' where 'a good transparent society' is one where most of the people know what's going on most of the time (Brin, 1998). Examples of these activities have been appearing in reports of smart-mobs (Rheingold, 2003), mobloggers and vloggers (video bloggers) that have been influential in numerous cases ranging from emergency crises, urban terrorism, natural catastrophe^{vi}, to political events across the globe involving protest and activism.

However, in the hands of responsible users such watchfulness can be kind, corrective, and protective. In the hands of the immature or manipulative it can be turned into harassment, stalking, voyeurism, and intrusion. Such tools have the power to reshape relationships with the environment, other people, and with the very sense of one's own self. The concept of being a 'civil witness' coupled with miniaturised and mobilised surveillance devices is thus empowering both individualistic acts of 'good intentions' as well as encouraging mob activism. I now examine these notions, with two case studies.

i) The Case of the 'Dog-Shit Girl'

The event known as the 'Dog Shit Girl' is the English translation of the name given by South Korean bloggers to a young woman who refused to clean up the mess when the dog she was carrying defecated on the floor of a subway carriage^{vii}. Despite being offered a tissue by another passenger, and suggested she clean up the mess by fellow travellers, the young girl refused to do so and departed from the carriage at the next stop. This local incident would have gone unnoticed by everyone except those immediately in the carriage had it not been for another passenger who took a photograph of the girl, her dog, and the mess with their mobile phone and posted it onto a popular South Korean website. And this is where the incident becomes expanded into a case of 'virtual-vigilantism'. Soon after the posting on the Internet certain cyber-vigilantes began to examine the picture for any clue as to the young girl's identity and it did not take long for the girl to be identified and her personal information to be exposed. This was, it appears, an attempt to punish the girl for her 'offence' in the form of community humiliation similar to how earlier close community neighbourhoods operated. Yet this act of Internet humiliation was not solely the act of good intentions as it appeared to forcibly aim to expose not only personal and private details on the girl but also to encourage widespread condemnation.

The photo quickly became a popular image on Korean web sites, and was soon transferred to Western sites. Popularised by blogger Don Park on his June 8th post titled 'Korean Netizens Attack Dog-Shit-Girl', the blog explains what happened next:

Within hours, she was labeled 'gae-ttong-nyue' (dog-shit-girl) and her pictures and parodies were everywhere. Within days, her identity and her past were revealed. Request for information about her parents and relatives started popping up and people started to recognize her by the dog and the bag she was carrying as well as her watch, clearly visible in the original picture.^{viii}

Initially Korean newspapers responded with such headlined stories as 'Trial by Internet' Casts Spotlight on Korean Cyber Mobs'^{ix} and 'Internet Witch Hunts'^x. Similarly in the US the Washington Post responded with 'Subway Fracas Escalates Into Test Of the Internet's Power to Shame'^{xi}. Whilst these

serious comments attempted to debate the issue of cyber-vigilantism and the power of the Net to shame, individual commentators on the Net were not so diplomatic. One such comment was ‘Her life deserves to be ruined and she won't kill herself because she is a thick-skinned bitch’ whilst another said ‘Thanks to technology, we are able to build a better society in which citizens are the police, prosecutors, and judges’^{xii}. The question is a pertinent one: are we responsible enough to become our own trial and jury?

The Korea Herald ran a poll soon after the event on cyber witch hunts with the results that:

Twenty-four percent said it violated privacy, while 26.2 percent believed that witch hunts are necessary. Apparently, 979 cases of cyber witch hunts were reported last year. There were only 33 reported cases in 2001. Defamation of character complaints increased from 245 in 2001 to 1,306 this year. ^{xiii}

Allegedly the young girl in question soon had to quit university over her humiliation and even contemplated suicide. In consistent Internet fashion she posted her own apology on the Net with a picture of her dog^{xiv}. An English translation stated this as:

I know I was wrong, but you guys are so harsh. I'm regret it, but I was so embarrassed so I just wanted to leave there. I was very irritable because many people looked at me and pushed me to clean the poop. Anyhow, I'm sorry. But, if you keep putting me down on the Internet I will sue all the people and at the worst I will will commit suicide. So please don't do that anymore. (sic)^{xv}

Fantasy mixed with fact, bluff with a plea: there is no real way to ascertain the impact of this event as it is rife with assertions, speculations, commentary and criticisms. Yet the implications it offers are significant and in an age of increased bottom-up surveillance and camera-phones, it highlights issues that will increasingly become a part of socio-technical interactions on a regular basis.

Protection for oneself, and protection for others, is increasingly an area of concern as public fear becomes ever more pumped up through media

institutions and cultural discourse. As the next case shows, a form of self-surveillance can also be a very reassuring thing.

ii) Hasan Elahi – wanted by the FBI

An example of where transparency of self-surveillance has proved a necessary protection is shown in the case of researcher and artist Hasan Elahi. Elahi was detained at Detroit Airport after returning from a trip overseas and questioned by the FBI over his whereabouts on September 12th 2001 due to his ‘Arab appearance’ and his fluid lifestyle^{xvi}. It appeared that Elahi was being questioned because he had a storage locker in the city of Tampa, Florida, where he had been teaching. It turns out that the owners of the storage area, being hyper-sensitive to post 9-11 activities, had reported that an Arab man had left the scene leaving explosives in the locker. Of course, no explosives were ever found; and Elahi was not fleeing but rather participating in a mobile lifestyle. Despite showing his Blackberry phone with its appointments he was subjected to several intense interviews and nine polygraph tests over several months before being ‘cleared’ of any wrongdoing. After this experience Elahi decided to call ‘his’ FBI agent before every trip he made in order to supply the route and provide transparency.

This arrangement then shifted towards real-time in that Elahi turned his mobile phone into a tracking device that he wears to report all his movements onto a map^{xvii}. He also documents his life in a series of photos for all to witness, including the places he passes through, the meals he eats, and the bathrooms he uses. In order to experiment with the notion of surveillance Elahi also passes through non-places. On one occasion Elahi flew to Singapore for four days yet never left the airport, not even clearing customs. In one sense Elahi was ‘off the regular map’, and yet almost everything in these four days was documented, photographed, and stored. Elahi also makes available and transparent other lifestyle records, such as banking records and purchases, to a degree that doesn’t compromise his financial security however. This on-going record of Elahi’s life, mobility, and presence has become an observable,

tracked, and recorded document. It is a project of a person's life in-situ. Elahi's mission statement, his personal philosophy, is

I feel that the timing of how a certain technology is adopted by society is far more important than the technology itself. It is in these human borders and frontiers that I am interested in...and also the traces that they leave behind. I have been attempting to bridge these virtual conditions with physical geopolitical parallels and have been fascinated at the translations and the mis-translations of them. I find the most potential in these mutual misunderstandings. I find states of designed obsolescence in structures and systems of power as a global citizen. I prefer lo-fi to hi-fi—and in these absurd realities.^{xviii}

This form of self-surveillance not only serves as an art form but is also a means to create an ongoing, fluid alibi through making transparent all the complex entanglements that a physical-digital lifestyle entails. Here is an instance where pervasive communication technologies are integrating experiential time into the real-time of a self-willed and commandeered surveillance. It concerns how, in Elahi's own words, technology is adopted by society and thus impacts upon human borders and frontiers. It is an entanglement with structures of power that the individual passes through and becomes immersed and embroiled within. Elahi's response to these power structures is to display self-transparency, to make his life as an open and consistent alibi; to show the good citizen is no threat, no resisting target. It is a posture of acquiescence as well as obedience. Or is it a performance of sly resistance? Perhaps it is a tool in which to navigate the social power institutions as a seemingly harmless occupant/insider. It is a brave choice, yet one that not all people would opt for.

The maintenance of self that Elahi displays is not alone in the emerging configurations of panopticon tools and devices. Contrivances for watchfulness are clearly on the social-technical horizon.

The Mass Psychology of *digital mobs*?

However, the question this raises, I argue, is whether social domains might not be in danger of becoming over-sensory realms. Stross's essay 'The Panopticon Singularity' (2002) considers this trend in a dystopian fashion as 'the emergence of a situation in which human behaviour is deterministically governed by processes outside human control'. Stross argues, reminiscent of Foucault, that while the effectiveness of societal surveillance is dependent on the number of people involved 'systems of mechanised surveillance may well increase in efficiency as a power function of the number of deployed monitoring points' (Stross, 2002). In other words, as more people join the social panopticon, or sousveillant society, this will have a knock-on effect that encourages more people to join the securitisation of the self, rather than being left vulnerable and un-sensored.

So mobs may be smart (Rheingold, 2003); crowds may be wise (Surowiecki, 2004), and collective intelligence may be the next social revolution (Levy, 1999), yet we should also look to the past to see instances of when fear and insecurity implanted itself into particular collective thinking. We need only to remind ourselves of Wilhelm Reich's insightful prognosis in *The Mass Psychology of Fascism* to have a glimpse (Reich, 1946). As Fromm noted earlier this century 'the structure of modern society affects man in two ways simultaneously: he becomes more independent, self-reliant, and critical, and he becomes more isolated, alone, and afraid' (Fromm, 1960: 90). Fear that is fed within the individual is a major cause of passive collectivism. Similarly there is Jaron Lanier's essay 'Digital Maoism: The Hazards of the New Online Collectivism' (2006) to forewarn of 'the strange allure of anonymous collectivism', of collective fetishism and the herd mentality implicit in the hive mind. And it may not only be online that 'the collective rises around us in multifarious ways', as Lanier notes, but also in our social encounters, in our movements in and through our daily routines. In daily negotiations with people – strangers, colleagues, associates, friends – and with the services that aid, harass, allow or deny our routes through physical scapes. In all these geo-negotiations there are opportunities for bottom-up surveillance, for human-watchfulness, that may be as protective as it could be nefarious.

Such increasingly digitised environments have the potential to be extremely intrusive and goes beyond the normal ken of so-called civil liberties. Under the sway of a post September 11 scenario and amid an orchestrated ‘war on terror’ many of these intrusive technologies are in rapid development, so much so that the UK Government’s Information Commissioner himself states that we live in a surveillance society (Information Commissioner, 2006)^{xixxx}. These systems of tracking and tracing surveillance involve step changes that are taking place gradually in many industrialised societies, especially in the US and the UK^{xxi}.

There is no denying that such panopticon devices are proliferating – they are carried around with us, increasingly as our own willing appendages. Yet in an age where the rapid acceleration of digital reproduction has fostered new morals, ethics, and etiquette upon witnessing - upon becoming the ‘police, prosecutors, and judges’, as quoted earlier – there is a marked gap in the debates of how to approach instances of potential civil responsibility, or even the responsibility to one’s self. Can ‘we’ really be trusted to mete out collective justice?

Conclusion

The future is ever likely to be one enacted within an age of digital reproduction and exposure; amidst contestations of privacy, security, and informational vulnerabilities. Such an arena is as much psychological as it is physical. The focus then must be placed upon how technology enables a sense of responsibility, cooperation, and participation. Connections should empower, not devalue: they should encourage appropriate participatory action and not spread paranoia or unjustified humiliation and punishment. In the coming years we are likely to see a growth in such trends as accelerating information and misinformation; issues of secrecy, privacy, and transparency;

digital devices that record, store, categorise, and disseminate information; and publicised instances of self-surveillance and virtual-vigilantism.

Studies on global complexity (Urry, 2003, 2005) have shown how the interrelations and interconnections within global and social networks have compressed relations and events into a near-simultaneous instant. Major global events are being transfigured into localized information feeds whilst local sound-bites are being embellished into global consumerist phenomena. In such sensitive times it only takes a slight tipping-point (Gladwell, 2000) to turn events into a media-blitz of images and narratives that could serve to encourage increasing forms of self-surveillance and collective vigilantism.

Yet at the same time there is compelling reason to carry our 'selves' around with us as recorded sound-bites of alibi for our own protection. There is a fine line too between this being a willing step or one forced upon the individual as an enactment of resistance to hierarchical forms of monitoring and surveillance. Such trends are eerily suggestive of privacy intrusions and invasion. This may come about through the technological infrastructures that were put in place to 'protect us'. As such, these point towards the dark futures that technological mobilities have seeded (Urry, 2007). Perhaps it is the case that 'because we have freed ourselves of the older overt forms of authority, we do not see that we have become the prey of a new kind of authority' (Fromm, 1960: 177).

Wood and Graham have remarked that such socio-technical future(s) are 'not a technological determinist vision, rather, it is a potential outcome of the extension and increasingly strong alignment of hybrid collectives, every component of which has human, nonhuman and inhuman elements mixed to some degree' (Wood and Graham, 2006: 179). The Weberian 'iron cage' of bureaucracy with its emphasis upon codes of rationalization and efficiency may be a causative factor in the move towards modes of digital rendition and dependency that by its own nature results in the digital panopticism that this article has examined. In this light it can be argued that what is occurring may not be deliberate policies of malevolent and oppressive social control but 'an

institutional - bureaucratic obsession with function, with the smooth flow of goods and services, and with efficiencies of movement and transactional fluidity' (Wood and Graham, 2006: 182).

To conclude, physical-digital lifestyles and assemblages have accelerated modern capitalist territories into progressively closer proximities. Distance is no longer a barrier to communal punishment, or security from crimes one did not commit. Perhaps having little possibility to exist off the digitized panopticon indicates that self-transparency may be the better option - if indeed it remains an option. One may wonder whether it always so beautiful to be in the eye of the beholder?

Kingsley Dennis is a Research Associate in the *Centre for Mobilities Research* (CeMoRe) based at the Sociology Dept. at Lancaster University, UK. His research involves examining physical–digital convergences and how these might impact upon social processes. He is concerned with the digital rendition of identity and the implications of surveillance technologies.

Email: k.dennis1@lancaster.ac.uk

Notes

ⁱ See here the recent report commissioned by the Information Commissioner titled 'A Report on the Surveillance Society' - http://news.bbc.co.uk/1/shared/bsp/hi/pdfs/02_11_06_surveillance.pdf

ⁱⁱ Their website can be found at: <http://www.witness.org/>

ⁱⁱⁱ <http://www.indymedia.org/en/index.shtml>

^{iv} <http://citmedia.org/>

^v <http://english.ohmynews.com/index.asp>

^{vi} Such as in the London bombings of 11th July 2005 and the Indian Ocean tsunami on 26th December 2004.

^{vii} For an overview see - http://en.wikipedia.org/wiki/Dog_shit_girl

^{viii} See <http://www.docuverse.com/blog/donpark/alias/e5e366f9-050f-4901-98d2-b4d26bedc3e1>

^{ix} See <http://english.chosun.com/w21data/html/news/200507/200507080017.html>

^x See <http://times.hankooki.com/lpage/opinion/200506/kt2005060917161254050.htm>

^{xi} See <http://www.washingtonpost.com/wp-dyn/content/article/2005/07/06/AR2005070601953.html>

^{xii} See <http://populargusts.blogspot.com/2005/07/dog-poop-girl-redux.html>

^{xiii} See <http://populargusts.blogspot.com/2005/07/dog-poop-girl-redux.html>

^{xiv} See <http://boom.naver.com/1/20050619170920827>

^{xv} See <http://populargusts.blogspot.com/2005/07/dog-poop-girl-redux.html>

^{xvi} Read account at: <http://www.worldchanging.com/archives/005105.html#more>

^{xvii} See Elahi's tracking site: <http://elahi.rutgers.edu/track/>

^{xviii} See Elahi's homepage - <http://elahi.rutgers.edu/>

^{xix} See also BBC Report - <http://news.bbc.co.uk/1/hi/uk/6108496.stm> (accessed 05/11/06)

^{xx} For general information see the journal *Surveillance and Society* - <http://www.surveillance-and-society.org/index.htm> (accessed 05/11/07)

^{xxi} There are up to 4.2m CCTV cameras in Britain - about one for every 14 people – more than other industrialised Western states.

References

- Brin, D. (1998) *The Transparent Society : will technology force us to choose between privacy and freedom?* Reading, Mass.: Addison-Wesley.
- Cannon, L. (1998) *Official Negligence: How Rodney King and the Riots Changed Los Angeles and the LAPD*. New York: Times Books.
- Cascio, J. (2005) 'The Rise of the Participatory Panopticon' <http://www.worldchanging.com/archives/002651.html> (accessed 24/2/06)
- Cascio, J. (2006) 'Earth Witness' <http://www.worldchanging.com/archives/004069.html> (accessed 24/2/06)
- Clarke, R. (1994) 'The Digital Persona and its Application to Data Surveillance'. *The Information Society* **10** (2).
- Foucault, M. (1977) *Discipline and Punish : the birth of the prison*. New York: Pantheon Books.
- Fromm, E. (1960) *The Fear of Freedom*. London: Routledge & Kegan Paul.
- Gillmor, D. (2004) *We the media*. Sebastopol, CA: O'Reilly.
- Gladwell, M. (2000) *The Tipping Point: how little things can make a big difference*. Boston: Little, Brown.
- Information Commissioner (2006) *A Report on the Surveillance Society*. London: The Surveillance Network
- Lanier, J. (2006) DIGITAL MAOISM: The Hazards of the New Online Collectivism - http://www.edge.org/3rd_culture/laniero6/laniero6_index.html (accessed 14/03/07)
- Leadbeater, C. and Miller, P. (2005) *The Pro-Am Revolution: How enthusiasts are changing our economy and society*. Demos: (pp. 1-70)

-
- Levy, P. (1999) *Collective Intelligence: Mankind's Emerging World in Cyberspace*. Cambridge, MA: Perseus Books.
- Mann, S. (1998) 'Reflectionism' and 'diffusionism': new tactics for deconstructing the video surveillance superhighway. *Leonardo*, 31(2): 93-102.
- Mann, S. (2002) *Intelligent Image Processing*. New York: John Wiley & Sons
- Mann, Nolan, and Wellman (2003) '*Sousveillance: Inventing and Using Wearable Computing Devices for Data Collection in Surveillance Environment*'. *Surveillance & Society* 1(3): 331-355.
<http://www.surveillance-and-society.org> (accessed 16/01/08)
- Reich, W. (1946) *The Mass Psychology of Fascism*. New York: Orgone Institute Press.
- Rheingold, H. (2003) *Smart Mobs: The Next Social Revolution*. Cambridge, MA.: Perseus Publishing.
- Stross, C (2002) 'The Panopticon Singularity',
<http://www.antipope.org/charlie/rant/panopticon-essay.html>
(accessed 16/03/07)
- Surowiecki, J. (2004) *The Wisdom of Crowds: Why the Many are Smarter than the Few*. London: Little, Brown.
- Urry, J. (2003) *Global Complexity*. Cambridge: Polity Press.
- Urry, J. (2005) 'The Complexities of the Global'. *Theory, Culture & Society*, 22 (5), 235-254.
- Urry, J. (2007) *Mobilities*. London: Polity Press.
- Wood, D. M. and Graham, S. (2006) 'Permeable Boundaries in the Software-sorted Society: Surveillance and Differentiations of Mobility' In *Mobile Technologies of the City*. Sheller, M. and Urry, J. (Ed) London: Routledge, pp. 177-191.