5 Surveillance, Power and Everyday Life

David Lyon

Introduction

Surveillance grows constantly, especially in the countries of the global north. Although as a set of practices it is as old as history itself, systematic surveillance became a routine and inescapable part of everyday life in modern times and is now, more often than not, dependent on information and communication technologies (ICTs). Indeed, it now makes some sense to talk of "surveillance societies," so pervasive is organizational monitoring of many kinds. Fast developing technologies combined with new governmental and commercial strategies have led to the proliferation of new modes of surveillance, making surveillance expansion hard to follow, let alone analyze or regulate. In the past three decades traffic in personal data has expanded explosively, touching numerous points of everyday life and leading some to proclaim the "end of privacy." But although questions of privacy are interesting and important, others that relate to the ways in which data are used for "social sorting," discriminating between groups that are classified differently, also need urgently to be examined. Who has the power to make such discriminatory judgments, and how this becomes embedded in automated systems, is a matter of public interest. Such questions are likely to be with us for some time, because of what might be called the "rise of the safety state," which requires more and more surveillance, and also because the politics of personal information is becoming increasingly prominent.

Literally, surveillance means to "watch over," an everyday practice in which human beings engage routinely, often unthinkingly. Parents watch over children, employers watch over workers, police watch over neighborhoods, guards watch over prisoners, and so on. In most instances, however, surveillance has a more specific usage, referring to some focused and purposive attention to objects, data, or persons. Agricultural experts may carry out aerial surveillance of crops, public health officials may conduct medical surveillance of populations, or intelligence officers may put suspects under observation. Such activities have several things in common, including that in today's world some kind of technical augmentation or assistance of surveillance processes is often assumed. ICTs are utilized to increase the power, reach and capacity of surveillance systems.

The specific kind of surveillance discussed here is perhaps the fastest growing and almost certainly the most controversial, namely the processing of personal data for the purposes of care or control, to influence or manage persons and populations. In this and every other respect, power relations are intrinsic to surveillance processes. This being so, it immediately becomes apparent that actual "watching over" is not really the main issue, or at least not literally. While camera surveillance certainly does have a watching element, other kinds of ICT-enabled surveillance include the processing of all kinds of data, images and information. Those of which we are most aware include the multiple checks that we go through at an airport, from the initial ticketing information and passport check through to baggage screening and the ID and ticket check at the gate. In this example, both public (governmental; customs and immigration) and private (commercial; airlines and frequent flyer clubs) data are sought. Others of which we may be less consciously aware include "loyalty cards" at supermarkets and other stores, which offer customers discounts and member privileges, but are simultaneously the means of garnering consumer data from shoppers.

All these count as surveillance of one kind or another, in which we are (usually) individuated—distinguished from others and identified according to the criteria of the organization in question—and then some sort of analysis of our transaction, communication, behavior, or activity is set in train. Thus some kinds of surveillance knowledge are produced that are then used to mark the individual, to locate him or her in a particular niche or category of risk proneness, and to assign social places or opportunities to the person according to the ruling criteria of the organization. It is not merely that some kinds of surveillance may seem invasive or intrusive, but rather that social relations and social power are organized in part through surveillance strategies. One can argue that the "surveillance societies" of today are a by-product of the so-called information society.

Surveillance today is often viewed in terms of the Panopticon, introduced by Bentham and discussed by Michel Foucault. Yet several writers have pointed to other features of surveillance that are difficult to squeeze into that frame. Gilles Deleuze, for example, suggested in a brief statement on "societies of control" that we all now live in situations where "audio-visual protocols"—such as cameras, PINs (personal identification numbers), barcodes and RFIDs (radio frequency identifications)—help to determine which opportunities are open, and which closed, to us in daily life (Deleuze 1992). Deleuze's (and Felix Guattari's) idea of the "assemblage" of surveillance activities has also been taken up by a number of sociological authors (such as Ericson and Haggerty 2000). The notion of assemblage in this context points to the increasing convergence of once discrete systems of surveillance (administration, employment, health, insurance, credit and so on), such that (in this case) digital data derived from human bodies flows within networks. At particular points the state, or totalizing institutions such as prisons, may focus or fix the flows to enable control or direction of the actions of persons or groups. But in this view surveillance becomes more socially leveled out, non-hierarchical, and inclusive of others who might once have felt themselves impervious to the gaze. At the same time, it is suggested, surveillance itself will not be slowed merely by resisting a particular technology or institution.

Others, sometimes indirectly, have also proposed fresh ways of examining surveillance beyond those classic foci on the "state" or total institutions as its perpetrators. Nikolas Rose, for instance, argues that surveillance be seen as part of contemporary governmentality, the way that governance actually happens, rather than thinking of it as an aspect of institutional state activities. He suggests that modern systems of rule depend on a complex set of relationships between state and non-state authorities, infrastructural powers, authorities that have no 'established' power, and networks of power (Rose 1996: 15). Surveillance, which pays close attention to personal details, especially those that are digitally retrievable, contributes to such governmentality. Indeed, governments and institutions may, paradoxically, use "freedom" (conventionally considered in opposition to state power) to further their ends. Consumer "freedom" and surveillance is a case in point.

The ways that contemporary surveillance works frequently leads to new forms of exclusion (rather than control through inclusion that was characteristic of Foucault's understanding of the Benthamite Panopticon). This is clear from empirical studies (such as Norris 2003 on camera surveillance), Bauman (2000) on super-max prisons, and the theoretical work of Giorgio Agamben (which criticizes Foucault for never demonstrating how "sovereign power produces biopolitical bodies" (Agamben 1998). Such exclusionary power has come more clearly into focus since 9/11, not only in the attempts to identify "terrorists" and to prevent them from violent action, but also in the more general sorting of foreign workers, immigrants and asylum seekers into "desirable" and "undesirable" categories. As Bigo and Guild (2005: 3) say, while Foucault thought of surveillance as something that affects citizens equally, in fact "the social practices of surveillance and control sort out, filter and serialize who needs to be controlled and who is free of that control." Such sorting is becoming increasingly evident not only in Europe but in North America and elsewhere too. And it is facilitated by new surveillance measures such as biometric passports and electronic ID cards, currently being established in the UK and the US (Lyon 2009).

The notion of a surveillance society is also given credence by the fact that in ordinary everyday life people are not only constantly being watched, but also willing, it seems, to use technical devices to watch others. Plenty of domestic technologies are on the market, for providing video camera "protection" to homes; cameras are commonplace in schools and on school buses (Monahan and Torres 2009); and many schools are adopting automated identification systems; spouses may use surreptitious means to check on each other; and there is a burgeoning trade in gadgets with which parents may "watch" their children. Day care cams permit parents to see what their toddlers are up to, nanny cams monitor for suspected abuse, and cell phones are often given to children so that their parents may "know where they are." Those technologies that originated in military and police use and later migrated to large organizations and government departments may now be used for mundane, civilian, local and familial purposes. At the same time, the broader frames for understanding surveillance, such as governmentality, which acknowledge its ambiguity as well as its ubiquity, permit consideration of how new technologies may also empower the watched. While global imperial power is undoubtedly stretched by surveillance, and social exclusion is automated by the same means, Internet blogs, cell-phone cameras and other recent innovations may be used for democratic and even counter-surveillance ends. While such activities have none of the routine and systematic character, let alone the infrastructural resources, of most institutional surveillance, they may nevertheless contribute to alternative perspectives and to the organizational capacities of counter-hegemonic social movements.

Surveillance technologies

The very term "surveillance technologies" is somewhat misleading. If one visits the "spy stores" that seem to spring up in every city, the term seems clear enough. You can purchase disguised video cameras, audio surveillance and telephone tapping equipment, GPS (global positioning satellite) enabled tracking devices, and of course counter-surveillance tools as well. But each of these is intended for very small-scale use—usually one surveiller, one person under surveillance, and they are often people already known to each other—and are decidedly covert. In policing and other investigative activities, such specifically targeted and individually triggered surveillance may be called for, but the kinds of surveillance discussed here are different in almost every respect. Regarding power relations, individual surveillance is one thing, institutional surveillance quite another.

Surveillance that has developed as an aspect of bureaucratic administration in the modern world (see Dandeker 1990) is large-scale, systematic and now increasingly automated and dependent on networked computer power. It depends above all on searchable databases (Lessig 1999) to retrieve and process the relevant data. Although some systems depend on images or film, even these possess far greater surveillance power when yoked with searchable databases. And in most cases surveillance is not covert. It is often known about, at least in a general way, by those whose data are extracted, stored, manipulated, concatenated, traded and processed in many other ways. Those buying houses are aware that checks will be made on them; patients know that health care agencies keep detailed records; video surveillance cameras are visible on the street; Internet surfers know their activities are traced; and so on.

Surveillance technologies enable surveillance to occur routinely and automatically, but only in some cases is the surveillance aspect primary. Clearly, the point of public CCTV is to "keep an eye" on the street or train station (although even here the larger goal may be public order or maximizing consumption). In the UK there are more than four million cameras in public places (Norris and McCahill 2004). Police and intelligence services also use technologies such as fingerprinting devices, wiretaps, CCTV and so on for surveillance purposes and all these depend (or are coming to depend) on searchable databases. For this reason, among others, they contribute to qualitatively different situations, sometimes amounting to a challenge to traditional conceptions of criminal justice (Marx 1988, 1998).

In many cases, however, surveillance is the by-product, accompaniment, or even unintended consequence of other processes and practices. It is sometimes not until some system is installed for another purpose that its surveillance potential becomes apparent. Marketers claim that they "want to know and serve their customers better" and this entails finding out as much as possible about tastes, preferences and past purchases, which has now developed into a multi-billion dollar industry using customer relationship marketing (CRM; see 6: 2005). Retailers may install ceiling mounted cameras in stores to combat shoplifting only to discover that this is also a really good way of monitoring employees as well. In the "privacy" field this latter process is often referred to using Langdon Winner's phrase "function creep" (Winner 1977).

Winner, like David Thomas almost 30 years later, warned that once a digitized national ID number has been assigned – say, to combat terrorism – its use is likely to be expanded to cover many cognate areas. Whatever the specific characteristics of surveillance technologies, they also have to be located culturally in certain discourses of technology. Especially in the western world and above all in the US, technology holds a special place in popular imagination and public policy. Technical "solutions" to an array of perceived social, economic and political questions are all too quickly advanced and adopted, particularly in the aftermath of some crisis or catastrophe. This is not the start of an anti-technology argument; it is simply to say that technical responses have become commonplace, taken for granted.

In the mid-twentieth century Jacques Ellul famously insisted that in the technological society, "la technique," or the "one best way of doing things" had become a kind of holy grail, especially in the US. In a world where from the late nineteenth century progress, associated with undeniable technological

advancement (at least in some domains), had been proclaimed, to fall back on technical solutions was both understandable, straightforwardly manageable, and of course lucrative for the companies concerned. By the end of the twentieth century Robert Wuthnow, a sociologist of religion, could argue that technology remains one of the few beliefs that unites Americans (1998). And if it was not clear before the twenty-first century, the challenge of terrorism certainly made it clear that technical responses were highly profitable. Share prices in security and surveillance companies surged after the attacks of 9/11 and also after the Madrid (2003) and London (2005) bombings.

The steady and often subtle adoption of new technologies, including surveillance devices and systems, into everyday life is highly significant from a sociological point of view. If it was ever appropriate to think of social situations in a technological vacuum, those days are definitely over. Because, for example, machines such as cell phones and computers have become essential for so many everyday communications, analyses of networks of social relations cannot but include reference to them. This is the "technoculture." Frequently, however, the focus is on how fresh forms of relationship are enabled by the new technologies rather than on how power may also be involved in ways that limit or channel social activities and processes. In a post 9/11 environment, the key questions are about civil liberties, following the hasty deployment of supposedly risk-reducing technologies in the name of national security. But equally, the mundane activities of shopping using credit and loyalty cards may also contribute to profoundly significant processes of automated social sorting into newer spatially based social class categories that modify older formations of class and status. Sociology itself is obliged to readjust to such shifts (see Burrows and Gane 2006).

The explosion of personal data

It is difficult to exaggerate the massive surge in traffic in personal data from the 1970s to today. And the quantitative changes have qualitative consequences. It is not merely that more and more data circulate in numerous administrative and commercial systems, but that ways of organizing daily life are changing as people interact with surveillance systems. One of the biggest reasons for this is hinted at in the word just used to describe it— "traffic." There is constant growth in the volume of personal data that flows locally, nationally and internationally through electronic networks. But one cause of this is "traffic" in another, economic, sense, in which personal data are sought, stored and traded as valuable commodities.

Long before notions of the "surveillant assemblage" came to the fore, Australian computer scientist Roger Clarke had proposed another term to capture the idea of "surveillance-by-data"—"dataveillance" (Clarke 1988). A surge in surveillance could be traced, he argued, to the convergence of new technologies—computers and telecommunications that rendered Orwell's ubiquitous two-way television unnecessary. The novel combinations made possible by ICTs permitted quite unprecedented flows of data, illustrated by Clarke in the case of electronic funds transfer (EFT).

It is hard for those who now assume the constant networks of flows (a term appropriated by Manuel Castells) to recall how revolutionary EFT seemed at the time. It enabled supermarket shoppers, for instance, to have their accounts conveniently debited at the point of sale, thus bypassing several stages of financial transaction that would previously have had to occur. Such transfers are not only now commonplace, they also occur across a range of agencies and institutions that once had only indirect and complex connections. Clarke's point about *Nineteen-Eighty-Four* was a critical one, pointing to the potentially negative surveillance capacities of dataveillance. Without minimizing that point, however, it is crucial to note that the major difference between the two is that EFT and its descendants are not centralized. Indeed, on the contrary, they are diffuse, shifting, ebbing and flowing – and yet, as we shall see, not without discernible patterns of their own.

Even when Clarke was writing about dataveillance, a further innovation had yet to become a household word. What is often referred to as the Internet (meaning a range of items, usually including email systems and the World Wide Web) was only coming into being as a publicly accessible tool in the early 1990s. The debate over its threatened commercialization was hot; until then it was the preserve of the military, academics and computer enthusiasts, many of whom saw it as an intrinsically open medium. Its eventual role as a global purveyor of information, ideas, images and data, under the sign of consumerism, signals a major augmentation of surveillance.

Not only were computers and communications systems enabling new data-flows of many kinds, now consumers could participate directly in the process. Online-purchasing of goods and services from groceries to airline tickets to banking meant that personal data was moving on a massive scale. Who had access to these data, and how they could be secured and protected became a central question as quite new categories of crime appeared, such as "identity theft," and as corporations fell over themselves to gain access to increasingly valuable personal data. Knowing people's preferences and purchasing habits was to revolutionize marketing industries, right down to targeting children (Steeves 2005).

A third phase of dataveillance only began to take off at the turn of the twenty-first century. It involves a device that had been in the analytical shadow of the internet during much of the 1990s but which, some argue, may be at least if not more profound in its social implications. The cell phone (or mobile phone) is the single most important item in what might be termed "mobiveillance." If dataveillance started in the world of places, such as supermarkets, police stations and offices, then the use of networked

technologies such as the Internet virtualized it, producing what might be called "cyberveillance." Surfing data became significant within the virtual travels of the Internet user. The advent of mobile or "m-commerce," in which the actual location of consumers becomes an important value-added aspect of personal data, using RFID, automated road tolling, or other technologies, as well as cell-phones, brings the activity that characterized "surfing" back into the world of place, only now it can be any place in which signals are accessible (Andrejevic 2004; Lyon 2006).

The result is that personal data now circulate constantly, not only within but also between organizations and even countries. Personal data flow internationally for many reasons, in relation, for example, to police data-sharing arrangements (such as the Schengen Agreement in Europe), especially with the rise of perceived threats of terrorism, or to "outsourcing,"—the set of processes whereby banks, credit card companies and other corporations use call centers in distant countries for dealing with customer transaction data. While for much of the time the public in countries affected by such increased data flows seem to assume that their data are secure and that they are used only for the purposes for which they were released, notorious cases of fraud and sheer error do seem to proliferate with the result that some consumers and citizens are more cautious about how they permit their data to travel.

The end of privacy?

From the late twentieth century a common response to the massive growth of surveillance systems in the global north has been to ask whether we are witnessing the "end of privacy." What is meant by this? On the one hand, as many socially critical authors assert, there are fewer and fewer "places to hide" (see for example O'Harrow 2005) in the sense that some surveillance systems record, monitor, or trace so many of our daily activities and behaviors that, it seems, nothing we do is exempt from observation. On the other, a different set of authors see the "end of privacy" as something to celebrate, or at least not to lament. In the face of growing e-commerce and the consequent mass of personal data circulating, Scott McNealy, of Sun Microsystems, most famously declared: "Privacy is dead. Get over it!" Privacy is a highly mutable concept, both historically and culturally relative. If privacy is dead, then it is a form of privacy—legal, relating to personal property, and particularly to the person as property—that is a relatively recent historical invention in the Western world. At the same time, this western notion of privacy is simply not encountered in some south-east Asian and eastern countries. The Chinese have little sense of personal space as Westerners understand it, and the Japanese have no word for privacy in their language (the one they use is imported from the west).

The best-known writer on privacy in a computer era is Alan Westin, whose classic book *Privacy and Freedom* (Westin 1967) has inspired and informed

numerous analysts and policy makers around the world. For him, privacy means that "individuals, groups or institutions have the right to control, edit, manage and delete information about themselves and to decide when, how and to what extent that information is communicated to others." However, although this definition seems to refer to more than the individual, the onus of responsibility to "do something" about the inappropriate use of personal (and other) data is on data-subjects. That is, rather than focusing on the responsibilities of those who collect data in the first place, it is those who may have grievances who have rights to have those addressed.

However, Priscilla Regan (1995) adds, importantly, that privacy has intrinsic common, public and social value, and that that therefore not only may individuals have a right to seek protection from the effects of misused personal data, but also organizations that use such data have to give account. The huge increase in surveillance technologies, for instance in the workplace and in policing, underscores this point. Today, data are not only collected and retrieved, but analyzed, searched, mined, recombined and traded, within and between organizations, in ways that make simple notions of privacy plainly inadequate. Valerie Steeves maintains that while Westin began, in the 1960s, with a broader definition of privacy, the overwhelmingly individualistic context of American business and government interests, in conjunction with pressure to adopt new technology "solutions," has served to pare down privacy to its present narrow conception (Steeves 2005).

Surveillance as social sorting

To argue that privacy may not have the power to confront contemporary surveillance in all its manifestations is one thing. To propose an alternative approach is another. For, as in the case of the Orwellian and the panoptic imagery for capturing what surveillance is about, the language of privacy has popular cachet. It is difficult to explain why "privacy" is not the only problem that surveillance poses (Stalder 2002) when this is so widely assumed by lawyers, politicians, mass media and western publics. The best way of deflecting attention from a singular focus on privacy, in my view, is to consider surveillance as "social sorting."

One might say that "to classify is human" but in modern times classification became a major industry. From medicine to the military, classification is crucial. As Geoffery Bowker and Susan Star show, the quest for meaningful content produces a desire for classification, or "sorting things out" (Bowker and Star 1999). Human judgments attend all classifications and, from our perspective, these are critical. Classification allows one to segregate undesirable elements (such as those susceptible to certain kinds of disease) but it is easy for this to spill over into negatively discriminatory behaviors. South Africa under apartheid had a strong population classification system but it served to exclude, on "racial" criteria, black people from any meaningful access to opportunity structures. Classification may be innocent and humanly beneficial but it can also be the basis of injustice and inequity. The modern urge to classify found its ideal instrument in the computer.

One way of thinking about surveillance as social sorting is to recall that today's surveillance relies heavily on ICTs. Both security measures and marketing techniques exploit the interactivity of ICTs to identify and isolate groups and individuals of interest to the organizations concerned. By gathering data about people and their activities and movements and analyzing secondary data by "mining" other databases, obtained through networked technologies, marketers can plan and target their advertising and soliciting campaigns with increasingly great accuracy. Equally, security personnel use similar strategies to surveil or monitor "suspects" who have been previously identified or who fit a particular profile in the hope of building a fuller picture of such persons, keeping tabs on their movements, and forestalling acts of violence or terror.

These actuarial plans for opportunity maximization (marketing strategies for widening the range of target groups for products and services) and for risk management (such as security strategies for widening the net of suspect populations) represent a new development in surveillance. Though they have a long history, they contrast with more conventional reactive methods of marketing or security delivery. They are future rather than past oriented, and are based on simulating and modeling situations that have yet to occur. They cannot operate without networked, searchable databases and their newness may be seen in the fact that unsuspecting persons who fit, say, an age profile, may be sent email messages promoting devices guaranteeing enhanced sexual performance and others, much less amusingly, who simply fit an ethnic or religious profile, may be watched, detained without explanation or, worse, by security forces.

The "surveillant assemblage" works by social sorting. Abstract data of all kinds—video images, text files, biometric measures, genetic information and so on—are manipulated to produce profiles and risk categories within a fluid network. Planning, prediction and pre-emption, permitting all these and more goals, are in mind as the assemblage is accessed and drawn upon. Social sorting is in a sense an ancient and perhaps inevitable human activity but today it has become routine, systematic and above all technically assisted or automated, and in some sense driven. The more new technologies are implicated, however, the more the criteria of sorting become opaque to the public. Who knows by what standards a credit application was unexpectedly turned down or an innocent terrorist suspect was apprehended? Of course, the sorting may be innocent and above question—surveillance, after all, is always ambiguous—but it is also the case that social sorting has a direct effect, for good or ill, on life chances (see Lace 2005: 28–32 for consumer examples).

The main fears associated with automated social sorting, then, are that through relatively unaccountable means, large organizations make judgments that directly affect the lives of those whose data are processed by them. In the commercial sphere, such decisions are made in an actuarial fashion, based on calculations of risk, of which insurance assessments provide the best examples. Thus people may find themselves classified according to residential and socio-demographic criteria and paying premiums that bear little relation to other salient factors. Equally, customers are increasingly sorted into categories of worth to the corporation, according to which they can obtain benefits or are effectively excluded from participation in the marketplace (Gandy 2010). In law enforcement contexts, the actuarial approach is replicated; indeed, Feely and Simon warned in the mid-1990s that forms of "actuarial justice" were becoming evident. The "new penology," they argue, "is concerned with techniques for identifying, managing and classifying groups sorted by levels of dangerousness" (Feely and Simon 1994: 180). Rather than using evidence of criminal behavior, newer approaches intervene on the basis of risk assessment, a trend that has become even more marked after 9/11 (Monahan 2010).

Little has been said about how so-called data subjects of contemporary surveillance engage with and respond to having their data collected and used by organizations. Much depends on the purposes for which those data are collected. Righteous indignation at being shut out of a flight may be the response of a passenger with a "suspicious" name, even though that same passenger may be delighted with the "rewards" from his frequent flyer program with which he "bought" the ticket. In each case, extensive personal data is used to determine the outcome, whether the privileged category of an "elite" passenger or the excluded category of a name on the no-fly list. Consumers appear most willing to provide their personal data when they believe that some benefit awaits them; employees and citizens are much more likely to exercise caution or express complaint at the over-zealous quest of organizations for their details.

Conclusion

Questions of surveillance and privacy have become more important as so-called information societies have developed since the 1970s. Thus ICTs are centrally implicated in these developments because their establishment may be prompted by these technologies, which may be harnessed to add power to surveillance systems. At the same time, surveillance grows because of certain economic and political priorities and because of the emergence of cultural contexts in which self-disclosure is not merely acceptable but sometimes positively valued and sought. Surveillance has also been expanding rapidly since 9/11.

Calls for greater privacy, once the standard response to increased surveillance, continue to be made, with varying results. Yet regulative bodies, especially those based on legislative regimes, have a very hard time keeping up with the changes occurring. At the same time, the onus of law has tended to be on the individual who feels (assuming she even knows) that she has been violated or invaded, and not necessarily on the organizations that process the data in the first place. Data protection regimes have more to offer here, dependent as they are on registering their activities, and more recent laws for instance the Personal Information Protection and Electronic Documents Act 2001 (PIPEDA) in Canada—do require organizations, in this case including commercially based ones, to attend to the stipulations of the law.

But large and urgent questions about social sorting remain, even after privacy and data protection policies and laws have done their work. It is quite possible for negative discrimination to be carried out, automatically and systematically, against ethnic minorities (such as categories relating to the likelihood of terrorist involvement) or social-economic minorities (such as those living in low-income districts of cities), despite having such policies and laws in place. The codes by which persons and groups are categorized are seldom under public scrutiny, and if they relate to "national security," they may well be veiled in official secrecy, and yet they have huge potential and actual consequences for the life chances and choices of ordinary citizens. Thus both in terms of accurate analysis and informed political action, much remains to be done in the emerging realm of database-enabled surveillance. It seems unlikely that the issues will be tackled in ways appropriate to the present challenge while the mass media encourage complacency about self-disclosure; high technology companies persuade governments and corporations that they have surveillance "solutions" to their problems; actuarial practices deriving from insurance and risk management dominate the discourse that support surveillance; and legal regimes are couched in the language of supposed rights to individual privacy. The politics of information in the twentyfirst century will increasingly be about how to increase the accountability of those who have responsibility for processing personal data.

Note

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Bibliography

- Agamben, G. 1998. *Homo Sacer: Sovereign Power and Bare Life*. CA: Stanford University Press.
- Andrejevic, M. 2004. *Reality TV: The Work of Being Watched*. New York: Rowman and Littlefield.

Ball, K. and F. Webster (eds.) 2004. *The Intensification of Surveillance: Crime, Terrorism and Warfare in the Information Age*. London: Pluto Press.

- Bauman, Z. 2000. "Social Issues of Law and Order." British Journal of Criminology 40: 205-21.
- Bigo, D. and E. Guild (eds.) 2005. *Controlling Frontiers: Free Movement Into and Within Europe*. Aldershot, UK: Ashgate.
- Bowker, G. and Susan Star. 1999. *Sorting Things Out: Classification and Its Consequences*. Cambridge MA: MIT Press.
- Burrows, R. and N. Gane. 2006. "Geodemographics, Software and Class," *Sociology* 40 (5): 793–812.
- Clarke, R. 1988. "Information Technology and Dataveillance." Communications of the ACM 31(5): 498–512.CRM 6, P. 2005. "The Personal Information Economy: Trends and Prospects for Consumers." In The Glass Consumer: Living in a Surveillance Society, S. Lace ed. Bristol UK: Policy Press, 17–43.
- Dandeker, C. 1990. Surveillance, Power and Modernity. Cambridge: Polity Press.
- Deleuze, G. 1992. "Postscript on the Societies of Control", October 59. Cambridge, MA: MIT Press, 3–7.
- Ericson, R. and K. Haggerty. 2000. "The Surveillant Assemblage," British Journal of Sociology 51(4): 605–22.
- Ericson, R. and K. Haggerty. 1997. *Policing the Risk Society*. Toronto: University of Toronto Press.
- Feely, M. and J. Simon. 1994. "Actuarial Justice: The Emerging New Criminal Law." In *The Futures of Criminology*, ed. D. Nelken. London: Sage, 173–201.
- Foucault, M. 1979. Discipline and Punish. New York: Vintage.
- Gandy Jr., O. 2009. "Coming to Terms with Chance: Engaging Rational Discrimination and Cumulative Disadvantage." Farnham, UK: Ashgate.
- Gandy Jr., O. and A. Deanna. 2002. "All that Glitters is not Gold: Digging Beneath the Surface of Data Mining." *Journal of Business Ethics* 40: 373–86.
- Gandy Jr., O. 1993. *The Panoptic Sort: A Political Economy of Personal Information*. Boulder, CO: Westview Press.
- Genosko, G. 2006. "Tense Theory." In *Theorizing Surveillance: The Panopticon and Beyond*, ed. D. Lyon. Cullompton, UK: Willan Publishing.
- Hardt, R. and A. Negri. 2000. Empire. Cambridge, MA: Harvard University Press.
- Lace, S. 2005. The Glass Consumer: Life in a Surveillance Society. Bristol UK: The Policy Press.
- Lash, S. 2002. Critique of Information. London: Sage.
- Lessig, L. 1999. Code and Other laws of Cyberspace. New York: Basic Books.
- Lyon, D. 2009. Identifying Citizens: ID Cards as Surveillance. Cambridge: Polity Press.
- Lyon, D. 2007. Surveillance Studies: An Overview. Cambridge: Polity Press.
- Lyon, D. 2006, "Why Where You Are Matters: Mundane Mobilities, Transparent Technologies and Digital Discrimination." In *Surveillance and Security: Technological Politics and Power in Everyday Life*, ed. T. Monahan. New York and London: Routledge.
- Lyon, D. 2004. "Surveillance Technology and Surveillance Society." In *Modernity and Technology*, eds. T. Misa, P. Brey and A. Feenberg. Cambridge, MA: MIT Press, 161–84.
- Lyon, D. (ed.) 2003. *Surveillance as Social Sorting: Privacy, Risk, and Digital Discrimination*. London and New York: Routledge.
- Lyon, D. 2003. Surveillance after September 11. Cambridge: Polity Press.
- Lyon, D. 2001. Surveillance Society: Monitoring Everyday Life. Oxford: Open University Press.
- Marx, G. T. 1998. "Ethics for the New Surveillance," *The Information Society* 14: 171–85.

- Marx, G. T. 1988. *Undercover: Police Surveillance in America*. Berkeley CA: University of California Press.
- Monahan, T. 2010. Surveillance in a Time of Insecurity. New Brunswick: Rutgers.
- Monahan, T. and R. Torres. 2009. *Schools Under Surveillance: Cultures of Control in Public Education*. New Brunswick: Rutgers University Press.
- Norris, C. 2003. "From Personal to Digital: CCTV, the Panopticon and the Technological Mediation of Suspicion and Social Control." In *Surveillance as Social Sorting: Privacy, Risk, and Digital Discrimination,* ed. D. Lyon. London and New York: Routledge, 249–81.
- Norris, C. and M. McCahill. 2004. "CCTV in London, Berlin: Urban Eye." www. urbaneye.net/results/ue_wp6.pdf, accessed March 18, 2008.
- O'Harrow, R. 2005. No Place to Hide. New York: Free Press.
- Raab, C. D. 2005. "Governing the Safety State," inaugural lecture at the University of Edinburgh, Scotland (June 7).
- Regan, P. 1995. Legislating Privacy. Chapel Hill: University of North Carolina.
- Rose, N. 1996. Powers of Freedom. Cambridge UK: Cambridge University Press.
- Stalder, F. 2002. "Privacy is Not the Antidote to Surveillance," *Surveillance and Society* 1(1): 120–4. Available: http://www.surveillance-and- society.org/articles1/opinion. pdf, accessed November 23, 2007.
- Steeves, V. 2005. "It's not Child's Play: The Online Invasion of Children's Privacy." University of Ottawa Law and Technology Journal, 2 (2).
- Westin, A. 1967. Privacy and Freedom. New York: Athenaeum.
- Winner, L. 1977. Autonomous Technology: Technics Out of Control as a Theme in Human Thought. Cambridge MA: MIT Press.
- Wuthnow, R. 1998. *The Restructuring of American Religion*. Princeton, NJ: Princeton University Press.