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Abstract

This paper considers the current status of the concept of the Panopticon, and its relevance both for contemporary social theory and for the analysis of recent trends in the public and private surveillance of individual lives. The origins of the concept from the nineteenth century onwards are examined. A description of the space opened up for Panoptical practices and aspirations, by the development of the welfare state and of anthropological categories in the field of crime, helps to explain the continuing importance of the categories of the criminal and the vulnerable for the legitimization of contemporary surveillance, at work, in commerce and on the street. The theoretical arguments in favour of abandoning the concept of the Panopticon (from Bauman, Bogard, Latour and others) are considered under five headings:

- *displacement* of the Panoptical ideal by mechanisms of seduction
- *redundancy* of the Panoptical impulse brought about by the evident durability of the self-surveillance functions which partly constitute the normal, socialized, 'Western' subject
- *reduction* in the number of occasions of any conceivable need for Panoptical surveillance on account of simulation, prediction and action before the fact
- *supplementation* of the Panopticon by the Synopticon
- *failure* of Panoptical control to produce reliably docile subjects.

These arguments are confronted with an illustrative sample of contemporary surveillance and screening activities. The conclusion of the paper is that the Panoptical impulse is not fading away, and that developments in screening and surveillance require the retention of the Panopticon as an analytical ideal type. However, changes in the sites of application have been such as to require some adjustment in the concept.

Keywords: Panopticon; surveillance; seduction; CCTV; call centres; information control; Bentham; Foucault.

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Seduction and surveillance

According to Zygmunt Bauman's analysis, the "Panoptic" model of securing and perpetuating social order' is now defunct. He argues that it was quite appropriate for armies of workers and infantrymen, who were shaped by policing and indoctrination, but is now inappropriate in societies shaped by consumption and enjoyment imperatives. He writes:

Most of us are socially and culturally trained and shaped as sensation-seekers and gatherers, rather than producers and soldiers. Constant openness for new sensations and greed for ever new experience, always stronger and deeper than before, is a condition sine qua non of being amenable to seduction. It is not 'health' with its connotation of a steady state, of an immobile target on which all properly trained bodies converge – but 'fitness', implying being always on the move or ready to move, capacity for imbibing and digesting ever-greater volumes of stimuli, flexibility and resistance to all closure, that grasps the quality expected from the experience-collector, the quality that indeed she or he must possess to seek and absorb sensations.

(Bauman 1999: 23)

For Bauman, then, the dream of total control, exemplified by the Panopticon, is really fully applicable only within a 'clockwork'¹ society, whose inhabitants are required to have fixed places, functions and appetites. 'Advanced Western' societies are not like this.

Bauman's analysis is persuasive inside those areas of contemporary society where hunger for movement is, oxymoronically, a required luxury. His analysis is, however, just a little too deeply impressed by a tendency which can also be seen, *mutatis mutandis*, in the work of Pierre Bourdieu, a tendency slightly to over-generalize the condition of what Bourdieu called the 'fun ethic' of the 'rising petit-bourgeoisie' (Bourdieu 1984: 365–71). Memorably, Bauman has written of 'tourists and vagabonds', 'globals and locals', inhabitants of a new first and a new second world:

For the inhabitants of the first world – the increasingly cosmopolitan, extraterritorial world of global businessmen, global culture managers or global academics, state borders are levelled down, as they are dismantled for the world's commodities, capital and finances. For the inhabitant of the second world, the walls built of immigration controls, of residence laws, and of 'clean streets' and 'zero tolerance' policies, grow taller; the moats separating them from the sites of their desire and of dreamed-of redemption grow deeper, while all bridges, at the first attempt to cross them, prove to be drawbridges.

(Bauman 1998: 89)

In Bauman's view, in the hydraulic era of mass armies and huge workforces, the Panopticon could quite properly be seen as a 'diagram of a mechanism of power reduced to its ideal form' (Foucault 1979: 205), as the conceptual essence of interior regulation. Now, however, in the new era of two worlds, the vanishing point

of the Panoptical gaze is no longer in the middle but has moved to the edges. The dream life of surveillance is no longer conveyed by the Panopticon. It is now enshrined in the science fiction of the force field. The prime function of surveillance in the contemporary era is border control. We do not care who is out there or what they are doing. We want to see only those who are entitled to enter. Panoptical surveillance was formerly a model for the whole of society, Bauman's work seems to suggest, but now its power is diminished as its context has been lost.

The arguments in support of this position are indeed seductive: the erosion of public space, reported upon by Mike Davis in his studies of Los Angeles, promises an airlocked world of interconnecting modules into which those without credentials cannot pass; the focus on active consumers in the 'electronic Panopticon' is less about policing and more about market share and the intensification of consumer seduction. When such examples are contrasted with the reality of 'no-go' areas in trouble spots around the world, or with the relatively cursory monitoring of the homeless in urban areas,² we seem to be moving towards a confirmation of Bauman's dual society thesis. It is possible, however, that there is a certain elision here, an unexamined slippage from global society to specific society, and back again. At the global level, it is easy to agree that the world can be split into the two halves which Bauman identifies, with rigorous policing and surveillance of the borders where they abut. That, from the standpoint of the 'rich' side, this can be taken as the default position can be seen every day in debates about immigration law and procedure, with concessions in the case of emergencies like Kosovo 1999 being precisely that – concessions. However, when we move from the level of the global to the level of a specific society like the US or France or the UK, we find that it is much harder to argue that Panopticism has been entirely overtaken by seduction as *the* mechanism of interior social control. The seduction-exclusion model of the dual society is an ideal type which has much to offer, but it is precisely a 'one-sided accentuation' and, when we look at a given case more closely, we find that as often as not it breaks down.

Consider for example, Mike Davis' account of the social origins of the 1992 Los Angeles food riots. He describes a fall in manufacturing employment in Greater Los Angeles amounting to almost one third, with much of the employment loss sustained by Mexican immigrants. Simultaneous cuts in various forms of welfare support pushed more and more families into real hardship. Malnutrition, for example, was found in more than 20 per cent of children examined under an LA County screening programme; while, in December 1991, the *LA Times* published a photograph of a line of about 20,000 mostly Latino women and children waiting for a charity hand-out of Christmas food. Now, when the riots took place from 29 April 1992, the participants were not unknown hordes from an undocumented dark mass. One teacher described the situation directly to Mike Davis:

I teach at a new school which is a block west of Olympic and Hoover. My students and I watched from our classroom window as a video store burned.

Later, my wife, who teaches at Hoover Street School, and I watched on television as stores near our schools were looted by parents and students whom we recognised.

(cited in Davis 1998: 374)

If we recall, what perhaps needs to be reiterated, that the origins of Panopticism were as much in social architecture – in a concern for the criminal and the vulnerable – as they were in prison design, it will actually be no surprise if it can be shown that urban society and all its inhabitants remain within a sub-Panoptical system, in which health and nutritional surveillance (as well as a mass of other kinds of monitoring) may be routine, and in which there are constant reminders that social orders most generally crumble (and are patched-up) from within.³ Nor would it be a surprise if it were found that breakdowns of micro-social systems tend to arise out of congestion, overload and a deficit of care, rather than from underperformance at the level of marketing and seduction. In fact, it is quite difficult to imagine what an instance of social breakdown arising merely out of failure of the seduction system would look like.

This does not mean that the seduction-exclusion model of the dual society is invalid, but it is possible to integrate its percipient insights into a concept of post-Panopticism, an idea which will allow the continuing pressure of general surveillance, but which will also declare that significant changes have taken place. To establish the idea of post-Panopticism, it will be helpful to revisit some of the earlier debate.

The origins of Panopticism

As intellectual property, the Panopticon belonged to Samuel Bentham. But it was his brother, Jeremy Bentham, who wrote about the Panopticon in 1786 in a series of letters from Russia, and who five years later produced a postscript, written in London, and intended to persuade the Government that this was a project worth funding (Semple 1993). It is in the postscript that we find the diagram which is taken as the illustration by both Michel Foucault, who published *Surveiller et punir* in 1975, and Thomas Markus, whose *Buildings and Power* appeared in 1993.

The Panopticon is an observatory, its operative logic – inspection from a central hub of the activities of those at the perimeter. It enshrines a shift in the regular protocols of social power, from the principle of the specific sovereign whose every action will be seen as an actual or potential command, to the general thematic of the mass, to be shaped and recorded, within the impersonal context of an abstract system. In the Panopticon, the peripheral mass cannot see their observers, and must assume that someone may be watching over them all of the time. Bentham called this arrangement the *Inspection House*. He made huge claims for the utility of his design: its effects would include ‘*Morals reformed – health preserved – industry invigorated – instruction diffused*’ (Bentham 1995: 31).

The architectural principle would be found valid, Bentham said, ‘No matter how different, or even opposite the purpose: whether it be that of punishing the incorrigible, guarding the insane, reforming the vicious, confining the suspected, employing the idle, maintaining the helpless, curing the sick, instructing the willing...or training the rising race in the path of education’.⁴ Bentham was quite clear that the Inspection House was not merely an idea for a prison. He took the example of the hospital, and said:

I take it for granted that the whole tribe of medical curators – the surgeon, the apothecary, the matron . . . find in the Inspection Lodge, and what apartments might be added above it, their constant residence. Here the physician and the apothecary might know with certainty that the prescription which the one had ordered and the other made up, had been administered at the exact time and in the exact manner in which it was ordered to be administered. Here the surgeon would be sure that his instructions and directions had been followed.
(Bentham 1995: 82–3)

In Bentham’s imagined hospital, disease and cure would both be disciplined. He made analogous claims for the educational utility of the Panopticon, suggesting in fact that it was a principle already partially applied in certain places, and drawing on his brother’s knowledge of the Royal Military School in Paris, where ‘the bed-chambers (if my brother’s memory does not deceive him) form two ranges on the two sides of a long room; the inhabitants being separated from one another by *partitions*, but exposed alike to the view of a master at his walks, by a kind of a *grated window* in each door’ (ibid.: 87). Writing in 1786, Jeremy Bentham finds the design and potential accomplishments of the Panopticon so compelling that his ‘wonder is not only that this plan should never have hitherto have been put into practice, but how any other should ever have been thought of’ (ibid.: 94).⁵ In just a few months, over the course of 1791, the concept of the Panopticon grew into a six-storey structural design, created for him, on paper, by the architect William Reveley.

For all of Jeremy Bentham’s efforts, the Panopticon was never built. The Edinburgh Bridewell was designed, by Robert Adam, to follow its principles (even though based on a semi-circle, rather than a circle), but then flawed by the addition of a ring of work rooms beyond the ring of cells, rendering the cells dark at night. During the 1790s, Jeremy Bentham failed in his attempt to become a successful drafter for legislation (Himmelfarb 1965)⁶ which would have institutionalized some of the utilitarian principles⁷ behind the concept of the Panopticon. He also failed in his bid to secure land, owned by the Archbishopric of York and leased by the Spencer family, on which to build his Panopticon. When, finally, he was granted land, the site (roughly where the Tate Gallery is now) was half the size he wanted and was not ideal for receiving the foundations of a large structure. In addition, he had difficult relations with the Treasury and a succession of prime ministers. In the end, his project in London was not built. Although the swamp he had originally been given was drained and a penitentiary was built there, it was not Panoptical. Indeed, it was said to be so confusing

that the warders had to find their way about by putting chalk marks on the walls (Semple 1993: 309).

Despite some notable successes for the concept, including a wooden Panopticon built for 3,000 workers in Russia in 1803 and some influence on early nineteenth-century prison architecture in the United States,⁸ the Panopticon fades from view. There were plenty of prisons, hospitals and schools built, and it was certainly the case that there was recognition of the need in these institutions for intermittent surveillance, for careful monitoring at crucial times, but total surveillance was a forgotten dream, let alone Jeremy Bentham's utilitarian linkage of permanent inspection with some form of profitable production. His conception was overtaken by other less rigorous models, by regimes of rules (Ignatieff 1989: 113), physical presence and continuing compromise, both architectural and financial. So, the re-appearance of the Panopticon as a contemporary icon in the 1970s comes as something of a surprise. Bentham was intervening in a debate about social order. How do we ensure a prosperous commonwealth, guarding what we have worked to produce from our enemies and ensuring the commitment of our own people to the replenishment of our storehouses? Part of his answer to that implied that a regime of surveillance is fundamental, but the less than enthusiastic response to his answer may suggest that neither the technology nor the social infrastructure were in place. In the late twentieth century, the much more interested response across the delta of social thought to Foucault's rehabilitation of the Panopticon concept does suggest that social conditions may have changed, that the ideological armature of surveillance is now much more established.⁹

There was effectively one single heading under which the activities of surveillance would operate. It was that of danger. Danger from our enemies, danger from those that might grow into our enemies, danger for and even from those who could not look after themselves. Two categories in particular have an intimate and intricate link to danger and surveillance. They are the criminal and the vulnerable. During the course of the nineteenth century, the advent of the criminal as a separate anthropological type appears alongside the rational jurist's view of the criminal as misaligned and correctable free will, supplementing it with a conception of criminal action as a manifestation of criminal nature, of natural evil. In the words of the Italian social philosopher, Pasquale Pasquino: 'If crime amounts in classical law to a sort of accident of the mind . . . the new legal theory will regard the criminal as a sort of excrement of the social body' (Pasquino 1991a: 238). Why this transition towards the end of the nineteenth century? In Pasquino's view, the contemporary perception was that the twin mechanisms of deterrence and imprisonment were inadequate. Crime rates were rising, criminals just had to be *different* if they were not amenable to rational treatment, if, as was apparently the case, many of them were beyond correction. The answer was, then, to pass from deterrence to neutralization, and the theme of a good deal of thinking, in penal theory and eugenic medicine, for example, at the beginning of the twentieth century in Europe, becomes 'social defence'. This shift from the misguided rational individual to the criminal as a given is quite momentous, for

the criminal type constitutes a danger against which mechanisms of self-protection and surveillance must be erected. This does not mean that surveillance and protection were not required before, but it now means that surveillance *among one's own* becomes an essential category, derived not from mere prudence but from a 'post-Enlightenment' fear of the very nature of things – whether of a newly perceived anthropological dualism of the rational and the criminal¹⁰ or from a recognition of the old truth about the indissolubility of evil and humankind.¹¹ Some fairly unattractive strategizing came out of this complex of ideas. The Belgian legal theorist, Prins, for example, argued in 1910 that judges should not 'make the punishment fit the crime', but should rather make the punishment fit the criminal, and that aggressive government ought to create a politics of social hygiene (Pasquino 1991a). While we have moved beyond such ideas to an extent, we have not entirely transcended them, the acceptance of CCTV as urban patrol having, for example, merely transferred the illiberal politics of social hygiene away from the bodies of the populace and into the spaces in which they circulate.

If we turn to the category of the vulnerable, we are quickly led to the concept of social welfare and the practices of the welfare state. Jacques Donzelot finds that the replacement of the *Machtstaat* by the welfare state conception began to take place in the nineteenth century. Whereas in the first half of the nineteenth century, dialogue on the state was structured by the issues of despotism on the one hand and natural rights on the other, in its second half what emerges is a conception of the state which is based not on sovereignty, but on solidarity. The idealized conception that the different parts of society should integrate into an harmonious whole provides the underlying rationale for the state's interference in areas like the economy and the family. 'New forms of intervention by the state into the family, through compulsory schooling, legislation on the protection of minors, and divorce' were justified by the pursuit of a healthy and well-integrated society (Donzelot 1979: 172). This leads away from notions of the absolute rights of the individual and towards contingent allowances being made for groups in special situations. The language of the special situation was, for Donzelot, the second component, alongside the idea of social solidarity, which provides the engine for the conception of the welfare state. It is within the welfare state conception that the notion of vulnerable groups emerges, and this notion gives rise to a surveillance imperative: the vulnerable need to be watched over and taken care of. More deeply than this, however, the hegemony of solidarity, and the priority of group over individual, create the general pre-condition for a regime of surveillance to extend beyond the categories of the criminal and the vulnerable, to the point of total coverage of the society.

Critics of the welfare state in the late twentieth century have pointed to the way in which the state has become separate from society and has assumed the role of management as opposed to underwriter and caretaker. It may be argued that this movement has produced a depoliticized but highly monitored population. There have been two lines of critique: a reformist view which emphasizes the growing social security bill, lack of citizenship values, the relation between rights and responsibilities; and, on the other hand, a radical argument against

the value vacuum symbolized by the refusal to consider serious measures for the redistribution of wealth. Neither of these lines of critique goes to the heart of social structures, and neither the neo-liberal nor the neo-social democratic critique is against surveillance, measurement and recording. Indeed, it may follow that the ethical and philosophical underpinning for a substantial critique of surveillance may not exist in a welfare-type society, that we can see surveillance as an ineluctable facet of social democracies, which are therefore bound to be surveillance societies. This may mean that any deep critique of surveillance as a principle would have to imply a critique of social democracy and social welfare simultaneously, and may help to explain the relative calm with which the contemporary development of surveillance powers has been received.

Panopticism now: theory and practice

One early tremor is the publication of Gertrude Himmelfarb's essay on Bentham in 1965. What this essay does is to make a link between the Panopticon and moral decay, between total surveillance and corruption. This link is clearly present in her characterization both of the Panopticon and of Jeremy Bentham. She emphasized that Bentham had proposed that prisoners in the Panopticon should work a fourteen-hour day, that the kind of work they did should be dictated by the contractor running the prison, and one should expect it to be determined by the question of profitability. She further noted that the contractors should lose prisoners from their workforce, not at the end of a sentence, but only under certain conditions: specifically, that the prisoner join the army or navy, or that a householder post a £50 bond, renewable annually, guaranteeing the prisoner's future good behaviour. What should happen if a bond is not renewed? Bentham's answer was the establishment of a half-way house, a workhouse, run on Panoptical principles, and also owned and managed by the contractor. Himmelfarb was in no doubt that the Panopticon was a machine for exploitation of the powerless by the powerful. As for Bentham, she wrote:

The contractor was the key to Bentham's scheme, and in more than the sense that is by now all too obvious. As one proceeds in this study of the Panopticon, what emerges is more and more a travesty of the model prison and the model reformer. But the travesty is not yet complete. The final turn of the screw, the final pitch of perfection, is the discovery that Bentham himself actually intended to be the contractor and the governor of the prison.

(Himmelfarb 1965: 219–20)

At the end of her essay, Himmelfarb adds to this intimation of Jeremy Bentham's venality the judgement of Henry Brougham, Benthamite, Whig MP, co-founder of London University, that the Panopticon is 'a scheme absolutely and perfectly vicious in principle'. In 1965, the year of publication of Himmelfarb's essay, the Cold War was at its height, Malcolm X was assassinated, the US were bombing North Vietnam, the LA race riots took place in Watts, and cultural sensitivities

to issues of totalitarianism were given a sharp prod by Jean-Luc Godard's *Alphaville*, but it was to take ten years for this 'vicious principle' to begin a new life as a metaphor for the age.

Michel Foucault was the main transport, bringing the notion of the Panopticon to wider attention with the publication of *Surveiller et punir* in 1975. His chapter on Panopticism in that book is well known, and it is probably necessary only to elicit here a skeletal reminder of what it had to say. For Foucault, Bentham's Panopticon is 'a compact model of the disciplinary mechanism' (Foucault 1977: 197). It deconstructs the mass, replacing it with 'a collection of separated individualities' (*ibid.*: 201). It marks a development from the disciplined administration which has its origin in the management of plague outbreaks, but the differences between plague and Panopticon are as important as the careful observation and consequent action that connect them. In particular, the administration of a plague outbreak is exceptional and self-limiting. It produces a temporary counter-society. It was not, at least for Foucault, a generalizable model. The Panopticon, on the other hand, was such a model. It was an expression in a pure form of a realizable technology of power.¹² It is true that theoretical distinctions between plague administration and prison design in terms of their generalizability to overall models of social functioning may be harder to sustain than Foucault seems to think – Sheldon Watts has argued, for example, that plague administrations provided an opportunity for the permanent increase of levels of coercion and control of the underclasses – but this does not really detract from Foucault's image of the Panopticon as a 'cruel, ingenious cage' (*ibid.*: 205), a view that was echoed simultaneously, in the emerging field of Lacanian psychoanalysis, by Jacques-Alain Miller's essay on Bentham's device, published in *Ornicar?*, the main outlet, at the time, for the publication of Lacan's seminars. Overall, Foucault's view captured the cultural imagination; the Panopticon, he said, illustrates a historical transformation:

The gradual extension of the mechanisms of discipline throughout the seventeenth and eighteenth centuries, their spread throughout the whole social body, the formation of what might be called in general the disciplinary society.
(Lacan 1977: 209)

The idea of a disciplinary, Panoptical society came to constitute the default background of much social and cultural analysis through the 1980s and into the 1990s. Analyses of the historical development and current functioning of private organizations, whose reception was reinforced by a cultural imaginary feeding off conspiracy theoretic journalism and a wave of paranoia entertainments emerging from the film industry, came to focus on the operation and significance of surveillance and control mechanisms, while, on the other hand, discussions of social policy and the welfare state have, for the most part, taken the necessity of surveillance and information so much for granted that it is hardly even discussed (as the Deputy Director of SocInfo, Millsom Henry, said, while computerized data are a widely available basic source for students of social policy, 'relatively little has been done to raise the specific and complex issues of access,

accountability, confidentiality and ethics in these new forms of technology' (Henry 1998: 373)).

Sociologists are quite properly aware of the undesirability of uncritical acceptance of the Panoptical paradigm, and theoretical objections to the singularity of vision implied by Panopticism (Jay 1993) can now be buttressed by empirical objections; but the overall picture is highly complex. McKinlay and Taylor's account of a US electronics multinational, to which they give the pseudonym, SiliCon,¹³ is critical of the fact that '[b]eguiled by Foucault's Panopticon metaphor a number of labour process writers have . . . produce[d] gloomy analyses of emerging factory . . . carceral regimes and omniscient surveillance' (McKinlay and Taylor 1998: 175). They researched management structures and employee involvement in a new plant which they nicknamed 'the Pyramid'. They found the prohibition of union membership, recruitment solely through psychometric and physical aptitude tests, the deliberate repudiation of a neighbourhood hiring policy, the disqualification of second family members as employees and the banning of newspapers anywhere on company premises. The Pyramid, approached along a private road, is physically separated from any other production or domestic centres, and is entirely made (except for its steel frame) of glass: a transparent factory in which the workers were organized into teams which monitored themselves through a formalized peer-appraisal system. McKinlay and Taylor contrasted older, Taylorist regimes with what the company regarded as their 'factory of the future':

Whereas Taylorism focused on discovering and imposing a fixed pattern of physical movement from above, team-based organisations focus on monitoring and remaking employee attitudes. The high-involvement workplace aims not at the managerial choreography of bodies but constant improvisation in work organisation and the unobtrusive orchestration of employee values. Contemporary organisation's pursuit of competitive advantage through innovation and efficiency demands not the compliant bodies of Fordism but active minds on the shop floor.

(McKinlay and Taylor 1998: 180–1)

The company sought the humane super-exploitation of their workforce by attempting to use every worker as an autochthonous surveillance point: 'the disciplinary matrix of peer review explicitly focused on the constant, microscopic policing of the team member's subjectivity' (ibid.: 181). As McKinlay and Taylor put it, 'In the metaphor of the Panopticon, the monthly meeting was the equivalent of the prisoner's quizzical glance at the Judas hole, uncertain of the watchfulness of his gaoler' (ibid.: 182). The formal reports fed back to 'central management' from these meetings consisted in the recording of numerical scores for each team on a central database. Remedial action would be taken if any team fell significantly below the norm.

Thus far this account would appear to fall into line with what we might label cultural Panopticism. However, what McKinlay and Taylor found to have happened as the new plant and its working relations matured was that the

peer-review system fell into both disrepute and disrepair. It soon became dis-trusted as a management tool, constructed as a site for team-worker solidarity with sanctions applied to the over-zealous or feared as an occasion of personal trauma. The management of the company saw that the peer-review system was becoming counter-productive, and there was growing support for more traditional forms of supervision and control, which appear to have been gradually established: 'Shift meetings became dominated by top-down directions regarding targets and left little or no space for collective discussions about work organisation' (*ibid.*: 187–8). McKinlay and Taylor's critique of Panopticism in organizational theory draws attention to the inevitable interrelationship between power and resistance, and also to that between capital and control. Does it show that Panopticism, in a concentrated applied form, may not work? – it certainly does. Does it also show that the Panoptical idea still entrances the designers and managers of 'factories of the future'? – it does that too. We already knew that the geometry of the Panopticon was faulty. Now, McKinlay and Taylor show us that a humanization and individuation of the Panoptical principle has serious problems as well. It still may be, however, that the Panopticon remains as a figure of desire within welfare capitalism.

We can pursue this further through Taylor and Bain's work on call centres. They quite properly refute claims that call centres should be understood as perfected sites of managerial Panopticism, arguing that management have their problems (staff turnover, employee absenteeism, low motivation levels and poor promotion chances for supervisory staff in flat-structured organizations), that the interests of individual managers and company policy do not always correspond, and that worker resistance through emerging trade unionism is developing. However, in their description of Telcorp, a major contracted supplier of Directory Enquiry and other services, the measures of team and individual performance, with weekly publication of achieved call times, and remote observation of qualitative individual performance under eight headings, lead them to characterize the organization as exemplifying:

the extremes of monitoring and measurement generated by both hard technology and software [where] [e]very call is subject to a series of strict and exceptionally detailed measurements, which, when statistically collated, are compared with conformance criteria laid down in the telephone company contract. . . . In summary, Telcorp is a highly monitored environment, where both computer and telephone technologies and managerial intervention generate a wide array of control and surveillance methods.

(Taylor and Bain 1999: 10,13)

Erving Goffman's work has, of course, taught us to look for the strategies of sub-version and counter-cultural construction in total institutional contexts, and, while it is early in the life history of this particular institutional form, already there is a history of recorded struggle and anticipation of creative resistance,¹⁴ already responded to by a trend towards extremely short-term contracts, of as little as two weeks for some employers (Wazir 1999) – long enough, one might

sardonically reply, if the operator is dealing with four companies or more than twenty languages and is therefore forced to read standard replies from a screen in a monitored context where each call is expected to last less than four minutes (Murphy 1999).

It is not just call centres or green-field industrial dystopias which can be measured against the ideal type of the Panopticon. As Anthony Giddens (1981) pointed out almost twenty years ago, surveillance refers not just to the sphere of supervision, but also to the collection of information, and to the ordering and deployment (Gandy 1993) of that knowledge. Back in 1994, elaborating his concept of the electronic Panopticon, David Lyon (1994) told us about Telesphere Communications (who in 1987 started the first national 900 service in the US,¹⁵ and from 1990 ran National Telephone Services, the second largest long-distance telephone network in the US). They sold information on-line to subscribers who wished to know some basic socio-economic information about the people calling them up. Telesphere would provide this information *with the caller still on the line*. So sales personnel or social security officials or insurance companies, whoever would have a reason for doing this, could determine some basic facts about those calling them up even as they spoke to them. This is, of course, the reverse side of Caller ID (which can help deter or even catch criminals),¹⁶ and is also part of the technology which enables UK telephone subscribers to dial 1471 to see which number called us last when we have forgotten to switch on our answerphone or want to know who last called but maybe did not, for whatever reason, leave a message. Now, in 1999, Telesphere appears to have been absorbed into a larger corporate entity, Qwest, which will have completed its fibre-optic network connecting 130 cities in the US by the end of June 1999. Qwest also owns transatlantic submarine capacity linking the United States to Europe and will jointly own a transpacific submarine cable system connecting the US to the Pacific Rim. Its network has a transmit capacity of up to two terabits per second. At full capacity, it can transmit two trillion bits of multimedia information per second. This, Qwest tell us, 'is equivalent to transmitting the complete contents of the Library of Congress across the US in 20 seconds'.¹⁷

As the media of communication transfer increase capacity at what seems an extraordinary rate, the amount of intelligence gathering appears also to be increasing. Impressions are all that are available here, since there is currently no methodology for measuring the intelligence equivalent of GNP, which we might call Gross Intelligence Product. Among those impressions, however, we find that in 1996, KPMG established a European Retail Survey panel of 140 retailers from ten countries. Food retailers were found to budget, on average, twice as much as other retailers for collecting customer information, their average being half a million pounds per year. Sixty-one per cent had databases, most of the rest planned to start them. Of those that had databases, 86 per cent were routinely collating sales information from such sources as store loyalty cards.¹⁸ Over three-quarters of the panel said they planned to collect more information. As consultants, KPMG's advice to the sector was that targeted marketing would continue to grow in importance. In the UK, the Ministry of Agriculture and Fisheries

appears to have agreed with the large UK supermarket groups – Sainsbury, Tesco and Safeway – that access to loyalty card records might enable the cross-comparison of food-buying behaviour with hospital admission details (Kinnes 1999). If shopping is the concrete outcome of the seduction culture, the investments of the major retailers would seem to indicate that seduction has incorporated certain Panoptical principles rather than simply rendered them redundant. Such an impression is certainly strengthened by the widespread internet practices which the typical internet shopper will find impossible to avoid. Joshua Quittner described some of them in *Time* magazine:

We set up a system at Pathfinder in which, when you visit our site, we drop a cookie into the basket of your browser that tags you like a rare bird. We use that cookie in place of your name, which, needless to say, we never know. If you look up a weather report by keying in a ZIP code, we note that. . . . We'll mark down whether you look up stock quotes. . . . we'll record your interest in technology. Then, the next time you visit, we might serve up an ad for a modem or an online brokerage firm or a restaurant in Akron, Ohio, depending on what we've managed to glean about you.

(Quittner 1997: 46)

Cookies may be, as one of Quittner's rivals puts it, a deeply worrying way of watching customers without their consent, but Quittner himself is not too worried about the prospect of his being similarly watched by others (as Scott McNealy, Chairman of Sun Microsystems, recently said, 'You already have zero privacy. Get used to it' (Thomas 1999).). His attitude is also that surveillance has not been replaced by seduction but has become interlaced with it.¹⁹

Developments in private sphere surveillance may be thought to have been dwarfed by what has been happening in the public sector. Consider, for example, the current alliance in the UK between police surveillance and computerized telecommunications. It was revealed early in 1998 that there were automatic links between BT and police computers. A conference on economic crime in Cambridge produced discussion which indicated that the number of requests for BT data from the police and other agencies was doubling every year. It was speculated that any single police investigation could involve chains to thousands of people. Daryl Godivala, head of BT's Network Special Investigations Department, explained that BT met increasing police demands for details of customers' calls by installing an automated computer-to-computer 'interface' to feed call information out. Unlike telephone tapping, warrants are not required before confidential data is sent out by BT. All British telecommunications operators, including mobile phone airtime suppliers, are storing and handing over this information, although only BT runs an automated system. In 1997, BT received and processed about 1,000 requests a week (Beckett 1998).²⁰ The background to this is, of course, the UK Police National Computer, switched on two years after the 1972 report of the Younger Committee. It started by dealing with motor cars. It now contains over 60 million records of numbers, names, locations, fingerprints, convictions, suspects, missing person notifications and wanted

individuals. Its database is legitimately entered around 25 million times a year. In addition to the PNC, there is also GCHQ (General Communications Headquarters) at Cheltenham, linked with the US NSA. The UK-USA security and intelligence community is staffed by more than 250,000 and has a budget of close to 20 billion dollars. Both the national and international security forces make full use of the latest technological innovations. British Telecom's System X – digital switching that replaces older electro-magnetic systems – permits totally imperceptible phone tapping, and reportedly has a function allowing a phone to be 'taken silently off-hook so that conversation in the room can be monitored remotely without alerting the owner' (Weber 1999: 227). The traffic in personal call information is already so large that two British firms have produced special software to process BT telephone call data automatically for intelligence purposes. These systems – called iTel and CaseCall – are currently used by every British police force, as well as by Customs, MI5 and the National Criminal Intelligence Service. GCHQ (whose recent project, codenamed *Echelon* randomly searches e-mails, digital phone calls and faxes for certain terms) can intercept any communication going through the airwaves in the 'interests of national security', for purposes of detecting 'serious crime' and to 'safeguard' the economic well-being of the UK (Campbell 1998). Not just phone calls are now logged into police computers. All vehicles entering or leaving the City of London or British seaports are being watched by robot automatic number-plate scanners (ANPS), which feed the data to the Police National Computer in Hendon. The PNC replies within five seconds if the vehicles are 'of interest' to police. Since October 1998, the 140 CCTV installations in the East London Borough of Newham have been linked to a face-recognition computer programme called *Mandrake* (Thomas 1998), a system piloted at Watford Football ground.²¹ This system was designed to operate just like APNS. This revolution in police information sourcing and in information-procurement technology has spawned the emergence of a complex new field of expertise, with software design for multimedia intelligence analysis at its most developed pole and the advice given by a host of security companies at its other. In the latter regard, a recent survey of local authority usage of CCTV (only a part of CCTV use, of course) found the following:

Of the local authorities which provided information about their CCTV systems, a total of 6586 CCTV cameras were identified in a total of 398 systems. That is an average of 3.24 systems per authority. If these figures are expanded to take account of the whole population . . . it can be estimated that across the UK there are approximately 1300 local authority CCTV systems, and approximately 21,000 surveillance cameras.

(Webster 1999; see also Norris *et al.* 1998)

– which connects to the relatively recent emergence of a new 'discipline' of town centre management with its own expanding professional association, and with the use of surveillance technology at its very core (Reeve 1998).

This impressionistic survey of recent trends in private- and public-sector

surveillance seems to suggest that sociologists, journalists, marketing consultants, software developers, police strategists and others are coming together to tell a story of incremental surveillance. Does this amount to an affirmation of late twentieth-century Panopticism? There is no clear answer to what is, in any event, a fairly imprecise question. But, if we ask whether it is helpful to use the Panopticon concept as a model against which to measure contemporary practice, the reasonable answer is surely more positive than negative. We may not be precisely on the path marked out by Gene Hackman's journey from *The Conversation* to *Enemy of the State*, but, intermittently watched by plural agencies, we would be wise to keep this particular line in mind, perhaps re-mapped to take account of some recent developments.

Post-Panopticism

In addition to Bauman's argument that the leading principle of social order has moved from Panopticism to seduction, there are at least four other socio-theoretic arguments against continuing fidelity to the basic Panoptical paradigm. First, it is internal to the Panoptical paradigm that physical apparatus and external controls might one day not be needed, as (post-)Panoptical subjects reliably watch over themselves, and perhaps this stage has now been reached. Second, the paradigm may have been transcended by the emergent practice of pre-visualization, the practice not of observing what is going on, but of foresight and prevention. Third, not only is our society marked by small numbers watching large numbers, it is also marked by the phenomenon of very large numbers watching the activities of very few; and this reversal of the Panoptical polarity may have become so marked that it finally deconstructs the Panoptical metaphor altogether. Fourth, Panoptical regimes are now self-defeating, generating sufficient subject 'malformations' of varied kinds to make the formation of post-Panoptical compromises inevitable. Let us take each of these four arguments in turn.

First, are we witnessing the actual ending or the evanescence of the set of watchful central executive functions? This is a basic question, but it is also a question which is clearly lodged within the functionalist paradigm, as Panopticism in general is so lodged. One of the major resources for the critique of functionalism within sociological thought was precisely the argument that there is no set of central executive functions which can be adequately described in terms of those functions. A second resource for the critique of functionalist thinking (read Panoptical thinking) was that to the extent that such a question makes sense, it only does so for concrete bounded instances, this set of laws or that international organization. If the end of Panopticism has arrived, and we remain within the functionalist frame, this would mean that social reproduction had become automatic, that 'society' had effectively taken on the characteristics of a von Neumann machine. Few would argue this. The question may become rather more interesting at the level of particular organizational forms. For example, the

limited company within a capitalist society is under no less surveillance with regard to its profits and the manner of their accomplishment than was the case in the last century; indeed, many would argue that the observation from various inspectorates has significantly increased. On the other hand, in professions like teaching (in the UK), responses to perceived crises have taken the form of an intensification of close surveillance and control, but at the level of discourse. In general, what we find is a very mixed picture, which is made more confusing because of the problematic corollaries of the functionalist heritage out of which the basic question comes. It would, however, be a mistake to dismiss the form of the question entirely, but perhaps it needs to be put differently, as an interrogation of *the growth of the set of watchful central executive functions*. Here we find the paradoxical situation where an important facet of an emerging post-Panoptical paradigm would continually reflect on the extent to which we are pre-Panoptical.

The second argument for post-Panopticism is well rehearsed by William Bogard:

The figure of the Panopticon is already haunted by a parallel figure of simulation. Surveillance, we are told, is discreet, unobtrusive, camouflaged, unverifiable – all elements of artifice designed into an architectural arrangement of spaces to produce real effects of discipline. Eventually this will lead, by its means of perfection, to the elimination of the Panopticon itself . . . surveillance as its own simulation. Now it is no longer a matter of the speed at which information is gained to defeat an enemy. . . . Now, one can simulate a space of control, project an indefinite number of courses of action, train for each possibility, and react immediately with pre-programmed responses to the actual course of events . . . with simulation, sight and foresight, actual and virtual begin to merge. . . . Increasingly the technological enlargement of the field of perceptual control, the erasure of distance in the speed of electronic information has pushed surveillance beyond the very limits of speed toward the purest forms of anticipation.

(Bogard 1996: 66,76)

The anticipation of the real, aided by forms of diagnostic surveillance, is a common feature of medicine (check the symptoms and eradicate the cause before the disease can gain a hold), of insurance (compile the statistics for when such people will die and then set the premiums to benefit both the insured person and the company), and of planning generally where the use of experience in anticipation is invaluable. Thus the coming together of surveillance and simulation should be no surprise. In general the link between simulation and surveillance was always there, it was always a question of trying to foresee the future. But one can of course overestimate the extent to which reality has become simulated and mediatized. Baudrillard's notorious argument that the Gulf War only existed within the media is now harder to embrace given the war in Kosovo and Yugoslavia, as is Bogard's view of a technologically transcendent military, which, in April 1999, was able to engage in the precision bombing of Yugoslavia only

when the weather was favourable. If it is grim but undeniable that the prevention of surveillance in Kosovo gave rise to its simulation, the mode of simulation was not technological but ideological, and the images were energized by the desire to be there and act. Nevertheless, it is undoubtedly the case that in military strategy, as with large economic or political investments, there is an anticipation of, what one might term, 'normal damage'. The very idea of this is a recognition of the impossibility of micro-Panoptical control, but is simultaneously a pointer to the importance of actuarial conceptions of 'normal damage' at a meso- or macro-level. A key question for political sociologists, within this frame of Panopticism and simulation, is to what extent conceptions of normal damage are strategically crucial anticipatory simulations rather than *post hoc* constructions.

The third argument for a post-Panoptical conception of surveillance is that the many are watching the few just as much as the few are watching the many, and in the former case the task is somewhat easier: not only is there much less of a problem of information management (volume, storage, indexation, access, codes of practice, statutory restrictions, employee training), there is also a very widespread desire to consume and be consumed by the product. Whether we are talking about soap operas, paedophiles, princesses or film stars, this does seem a powerful contemporary phenomenon. In an article published in 1997, Thomas Mathiesen speaks of the *viewer society*, and, adopting the term of the Danish sociologist Frank Henriksen, of the relation from the many to the few as the *Synopticon*. As Mathiesen points out, the Synopticon has a long history from festival, theatre and the Coliseum through to film and television today; and from the simultaneous synoptics and Panoptics of the Inquisition – simultaneously theatre of cruelty and regime of surveillance and control over the masses – through to the media attention to the security forces that duplicates that synoptic/Panoptic duality today, a duality that has been commented on in Victor Burgin's *Zoo 78*, a series of pictures juxtaposing the synoptical form of the peep show with passages from Foucault's account of the Panopticon (Owens 1992: 203).

Just as strongly as the surveillance relation is installed at the social level in welfare societies, so it is installed equally strongly at the level of individual practices through our membership of media society. The daily television news, the quality newspapers, the blockbuster novel, *Coronation Street* and the output of Hollywood, few escape some degree of self-identification and self-understanding through repeated exposure to one or more of these and other similar forms, and, to the extent that we have quite possibly become habituated to this general form of life and are therefore all watchers, we have ego investment in the continuation of this state of affairs. Thus, at a first and no doubt superficial level, since it can be argued that synoptical pastimes serve to keep the masses in a state of distraction, the machinery of surveillance is now always potentially in the service of the crowd as much as the executive. From the standpoint of an ideal ethical ego, there might be a certain hypocrisy in condemning the inspector in the inspection house, without at the same time ruling on the

world-wide audiences for the Clinton Impeachment hearing. This seems to make the principled but practical critique of surveillance, even outside welfare democracies, really quite difficult, since it would appear to demand nothing less than complete withdrawal from society.

The sociological cogency of the fourth argument derives from the transparent failures of any form of aspiring monolithic Panopticism to maintain a general reign of docile subjectivities. That failure is announced in many places: prison riots, asylum sub-cultures, ego survival in Gulag or concentration camp, re-tribalization in the Balkans. Such examples make exploration for different forms of subjectivation of considerable importance. It is a task which has been contributed to in no small measure by Michel Foucault's late work on the formation of the self, in which the question is not whether his analysis of the Greek and Christian concepts of the self was accurate, but whether he succeeds in demonstrating that alternative constructions of the subject are possible. Rainer Rochlitz notes that 'Foucault does not hesitate to put forward the Greek model for the consideration of the "liberation movements" of the Western world in the 1980s' (Rochlitz 1992: 251). The logic of Foucault's advocacy is precisely post-Panoptical. Faced with mounting evidence that the authoritarian absolutism underpinning the Christian concept of the self, for which Bentham's Panopticon was a precise model, is subject in the late twentieth century to increasing opposition, he was trying to learn from the past what the possibilities for the future of the self might include. As Mitchell Dean points out, this same logic is at work in his notion of governmentality (Dean 1999).

This evaluation of the concept and realities of the Panopticon produces a conundrum. At the same time as there are powerful theoretical arguments against the notion, there are some marked trends which seem to indicate that Western societies may be moving somewhat closer to a general condition of Panoptical surveillance. One recent attempt to make sense of this conundrum is Bruno Latour's idea of the oligopticon, which combines the idea of restricted groups with a focus on relatively small segments of society. His main example is traffic monitoring on the *Boulevard peripherique*, but, as he says, 'There are lots of places which have a total view under a very very small perspective' (Latour 1998). For Latour, these micromaps cannot be overlaid one on top of the next to produce a total picture, and to this extent for him the idea of the Panopticon even as ideal type would finally be foreign to an adequate understanding of society.

This is indeed the conclusion one would reach if the focus is on the way that aspirations to one-eyed total surveillance have been displaced by technological and strategic developments, rendered unnecessary by relatively efficient continuing socialization into self-surveillance and auto-seduction, inverted by the dramatizations of the mass media, and shown, in any event, always to fail when attempts are made to actualize them in quasi-total institutions. Perhaps, however, these considerations simply illustrate the differences between actual social contexts and the updated ideal type that, driven by general fears, desires and possibilities within contemporary technoculture, we can arrive at by

reinterpreting Bentham's model for today. Contemporary Western societies are post-Panoptical in the sense that the *fin de millénaire* Panoptical impulses remain challenged,²² just as they did (although the arguments and forms of response are somewhat different now) two hundred years ago. The most visual way to represent this condition would be to follow Heidegger, and latterly Derrida, and to draw a line through the terms Panopticon, Panoptical, Panopticism. To place these terms under erasure, drawing a black line through them, allowing the idea to be seen at the same time as denying its validity as description, could be the most honest resolution. If this straight-backed position is not taken, but is replaced by the dubious concept of post-Panopticism (echoing the equally dubious appellations of postmodernism, post-socialism, post-feminism and post-colonialism), it is to avoid the expressionist lunacies of a language filled to the point of inoperability with the black diagonal marks of erasure.

Notes

1 Deleuze (1995: 180) thought the metaphor of the 'simple' machine was more appropriate to the pre-disciplinary era, preferring the notions of entropy and sabotage as analytical tools for the examination of nineteenth-century capitalism.

2 A rather sharp example of this (illustrating simultaneously the prospect of increasing Panopticism in this area) concerns Ruth Wyner and John Brock, respectively Director and Project Manager of a Cambridge day centre for the homeless, prosecuted in December 1999 under the UK criminal law, for allowing their premises to be used for the supply of heroin, and criticized during the proceedings by the judge for not having installed CCTV.

3 Deleuze also points out that it is 'interiors' that are in a state of some disrepair. His view, however, that school, hospital, prison, army, industry are 'institutions in more or less terminal decline' (1995: 178) is exaggerated, and weakens his argument that contemporary societies are well past the transition point from disciplinary surveillance to flexibly modulated control (a clear view that deserves to serve as an alternative ideal type to the one explored in this paper).

4 Bentham explained the lay-out as follows:

The building is circular. The apartments of the prisoners occupy the circumference. . . . These cells are divided from one another, and the prisoners by that means secluded from all communication with each other, by partitions in the form of radii issuing from the circumference towards the centre and extending as many feet are thought necessary to form the largest dimension of the cell. The apartment of the centre occupies the centre. . . . It will be convenient in most, if not in all cases, to have a vacant space or area all round, between such centre and such circumference. . . . Each cell has in the outward circumference a window, large enough not only to light the cell, but, through the cell, to afford light enough to the correspondent part of the lodge. The inner circumference of the cell is formed by an iron grating, so light as not to screen any part of the cell from the inspector's view. . . . To cut off from each prisoner the view of every other, the partitions are carried on a few feet beyond the grating.

(Bentham 1995: 35)

5 It is worth noting that, while Jeremy Bentham's claim was that the Panopticon could be more than a prison, he never made a point of explaining the necessity of isolation in non-prison contexts (or of thinking through how the Panopticon might work in the

absence of the lateral screening). It should also be noted that there is a mathematical difficulty with the fundamental design economy of the Panopticon: the greater the number of cells on the periphery, the wider must be the diameter of the central inspection house (to avoid establishing a line of sight between non-contiguous cells). This equation compromises Bentham's utilitarian claim that many can be monitored by few, and may well have been one of the reasons that he moved from a notion of one to a cell to one of four to a cell in his 1791 postscript.

6 While Himmelfarb (1965: 226) found that Bentham designed the 1794 Penitentiary Act, Hume pointed to the crucial significance of interpretation and ownership: 'The Treasury and the Home Office assumed . . . that policy making was their function and not Parliament's. They never for a moment supposed that the Act of 1794 should or could be an imperative measure, imposing obligations on them' (Hume 1974: 52).

7 Markus writes,

Utilitarian philosophy could not have materialised in anything as fitting as the Panopticon. Central surveillance achieved total and continuous control. The benefits of productive labour would accrue to the keeper who was contracted to run the prison. Classification was by productive capacity rather than type of crime. The building, its controllers and its inmates would work together in clockwork regularity of space and time.

(Markus 1993: 123)

Himmelfarb (1965: 203) nicely parodies Bentham's utilitarian frame of mind by suggesting that the Panoptical regime can be seen as a quantitative improvement on other forms of incarceration since, quite simply, it would provide a maximum of solitude (on the 1786 formulation), of quiet and of productivity.

8 Emphasized in the conclusion to Semple, but noted merely as a precursor notion in Pavarini's (1981) essay on the invention of the penitentiary in the US.

9 A conclusion which would be disputed on the basis of the work of both Giddens and Dandeker, since both were critical of Foucault's homogenization of surveillance (Giddens 1981: 172; Dandeker 1990: 28), with Dandeker quite explicit that this homogenization (across prison, military and capitalist work organization, for example) would imply a pessimistic view of the possibilities of countering the excesses of surveillance.

10 For a contemporary reflection on such dualisms, within the law, see Heller (1987). For reflection on the cultural modulation of this emerging anthropological awareness, one might begin with Mary Shelley's *Frankenstein* and Ibsen's *Peer Gynt*.

11 For a recent discussion of Kant's late formulation of the 'radical innate evil in human nature' (Kant 1960: 28), see Copjec (1996).

12 '[T]he Panopticon must not be understood as a dream building: it is the diagram of a mechanism of power reduced to its ideal form; its functioning, abstracted from any obstacle, resistance or friction, must be represented as a pure architectural and optical system: it is in fact a figure of political technology that may and must be detached from any specific use' (Foucault 1977: 205).

13 As an indication that the influence of the Panopticon exceeds this duality of organizational theory and social policy, we might also consider the area of personal relations. It is clear to see there that the notions of self- and other-monitoring and surveillance are quite crucial to contemporary thinking. Vikki Bell, for instance, in her study of incest, points to the continuing effects of abuse, *even when the abuser is dead*, in terms of the Panoptical regime of permanent uncertainty as to whether one is being watched (1993: 64-6). The model of (in Bauman's italics - 1999: 22) *seeing without being seen* also underpins the traditional concept of parental socialization (in psychoanalytic terms, the installation of the father as superego, so that his absent presence will always be felt), itself modelled on the theological doctrine of an omniscient God, now returned full circle with the experience of love being represented within popular culture as bestowing special

powers, not the least of which is that of being with the other when one is not physically present (cf. *Forrest Gump* or the lyrics of The Police's *Every Breath You Take*).

14 The computer gaming, imaginary diary construction, conversation and sexual liaisons which all take place in the imaginary Call Centre named Quick Call, in Matt Thorne's novel *Eight Minutes Idle*, will doubtless find their analogues in future participant observer studies of Call Centre culture.

15 This subsequently became a foundation stone for Star Communications Ltd – a Nevada company which proclaims its links to the military (<http://home.earthlink.net/~starcomm1/StarComm> – 4 April 1999).

16 One example is that of a convicted child rapist who was apprehended because of caller ID. He was working in a Boston Hospital, and had been searching computer records for potential victims. The father of one such target had grown suspicious at a phone call, and tracing back through caller ID had led to the hospital, and to the arrest of the suspect (Quittner 1997: 42).

17 www.qwest.com (4 April 1999).

18 KPMG press release (5 September 1997).

19 For further information, see www.cookiecentral.com and www.doubleclick.net. The latter site asserts (25 April 1999) that 'DoubleClick has built the first global network of networks. With DoubleClick Network operations in over 14 countries worldwide, we can provide advertisers the ability to run true global campaigns with one media buy.'

20 Godivala indicated that most requests were for details of subscribers' names and addresses, rather than the numbers they had called.

21 I am indebted to Clive Norris for this information.

22 Some forms of that challenge not discussed here will be found in McLaughlin and Muncie's excellent comparison of hyper-Panopticism and post-Panopticism (1999). To which can be added the important argument, most recently adumbrated by Thomas Elsaesser in his reading of Fritz Lang's *Dr. Mabuse* trilogy (2000), that power can often be served as much by breaking lines of command, communication, control and intelligence, as by perfecting them.

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