



A diagram of panoptic surveillance

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Abstract

This article critiques a number of recent attempts to outline a contemporary theory of panoptic surveillance. It argues that an updated Foucaultian thesis must take into consideration the decentered and networked aspects of information technologies in an attempt to explain how consumer 'choice' is shaped by both rewards and punishments. Drawing upon the work of Foucault, Varela, Deleuze and Guattari, a diagrammatic theory of surveillance is developed, one that questions the interconnection between consumer, sales, distribution, and production data.

Key words

Deleuze • diagram, • Foucault • panopticon • surveillance

As consumers make purchases, request catalogues, return goods for servicing and repair, or simply browse for desirable commodities and services, their transactions are duly noted, stored, cross referenced, and often tracked or mapped. The ubiquity of this process cannot be overstated, nor can its broader implications for the study of techniques of social control, consumerism, market rationalization, and risk management. Likewise, for the many critics of consumer surveillance, the theoretical impact of Michel Foucault's analysis of Jeremy Bentham's 17th-century architectural plans for an all-seeing or 'Panoptic' prison cannot be overstated. While the vast majority of these critics have attempted to analyze panoptic surveillance from contemporary technological perspectives, this article argues that the

development of a theory of panoptic surveillance is often limited by literal readings of Foucault's panoptic prison, i.e. as critiques of carceral enclosures.

Generally speaking, contemporary revisions of the panoptic model typically offer one or more of the following three arguments. The first perhaps most broadly articulated critique focuses on the shifting architectural and categorical qualities of surveillance, moving from the carceral enclosure of the prison to the consumer database. In attempting to bridge the logic of Bentham's panopticon to contemporary definitions of information, this 'dataveillance' critique, first articulated in the expansive scholarship of Roger Clarke (1988),¹ but also compellingly revised and adapted in some of the most influential work in contemporary 'surveillance studies' (Gandy, 1993; Lyon, 1994, 2001), has discussed the discriminatory social implications of panopticism, often as a way to expand debates about personal privacy.

By comparison, a second, growing number of scholars have questioned the *automatic* disciplinary effect of panopticism, arguing for a more networked and transparent theory of surveillance. These authors share the view that, given the transparency of solicitations for personal information, individuals are not as easily coerced, forced, or otherwise disciplined into surrendering personal information. Rather, it is argued that consumers consciously offer their personal information in exchange for perceived personal benefit (be it a 'prize', rebate, or exclusive service). Thus, regardless of the enticement, Reg Whitaker, for one, argues that 'The Panopticon rewards participation' (1999: 141). And while this 'enticement' model helps to qualify the process of surveillance as ultimately an act of solicitation and exchange, it also downplays the degree to which such 'requests' for personal information are either altogether automated, for example, as the world wide web and browsers initially worked,² or realistically provide consumers with viable options to decline the offer (i.e. to 'opt-out').

Yet another group of scholars, many inspired by Thomas Mathiesen's (1997) critique of Foucault (1977), have similarly problematized the disciplinary effect of panoptic surveillance. These scholars (Bauman, 1988; Fiske, 1993; Levin, 1997) argue that in opposition to Foucault's panoptic arrangement of prisoners encircling the central guard tower, contemporary media technologies are more aptly defined by a *synoptic* relationship where the many now watch the few. For example, John Fiske (1993: 85) points to the football stadium as a 'reverse panopticon', wherein the power to individuate, segment, and control gives way to fan power, knowledge, and pleasure (especially when mediated through the multiple camera angles on television). As a specific critique of the Foucaultian panopticon, however, the synoptic argument assumes that panopticism derives from corporeal surveillance, in other words that the one literally *watches* the many. In the panoptic prison disciplinary power does not reside in the 'watcher' or central prison guard, it stems from the architectural arrangement of light

which *suggests* panoptic surveillance to the prisoners. Thus, as a media critique, the synoptic model is seemingly biased towards spectatorship. Moreover, as a critique of Foucault's work it largely fails to note how synopticism and panopticism potentially work in concert.

Admittedly, these three variations of panoptic criticism are more nuanced and often overlapping in their contributions than initially described here. Nevertheless, as we shall soon see in greater detail, I believe the categorization of such critiques is helpful in expanding the theoretical debate over the relevance and applicability of Foucault's panoptic model, particularly in an increasingly complex economy of personal information. Moreover, such critiques have distinct implications for claims made about the discriminatory, or otherwise dubious social effects, of panoptic surveillance. For example, the enticement and synoptic critiques can lead to a relatively unfettered notion of consumer agency and choice, where private information is consciously bartered and exchanged for a perceived benefit. By contrast, dataveillance arguments often result in questions about the technological ability to guarantee privacy. Ultimately, this article argues that all three critiques of panoptic surveillance are limited by their heuristic points of departure: the technology or architecture of panopticism by dataveillance scholars, or the enticement and synoptic focus on the conditions of soliciting or accumulating personal information from consumers.

With the help of Foucault and his 'interlocutors' Gilles Deleuze and collaborator Felix Guattari, this article conversely theorizes panoptic surveillance as a multiplicity of processes that work to increasingly quantify and qualify not only the specific behaviours of consumers (or other sales, inventory or distribution data), but also the efficiency of the panoptic process itself. It is argued that one cannot provide such an overarching theory of surveillance – or even appreciate the specific dynamics of panopticism (such as data accumulation or storage) – by privileging any one step in the process of panoptic surveillance. That is, by focusing exclusively on questions such as: how is personal information solicited? Or, how and where is personal information and other forms of consumer data stored (in databases or networked systems)? Consequently, in explicating the *diagrammatic* characteristics of panoptic surveillance, this article attempts to account for the way in which consumers and their data-selves become *continuously* integrated into the act of collecting, storing, and cross referencing a multitude of consumer market data (i.e. inventory–distribution–sales).

PANOPTICS, CONFESSIONS AND SOLICITATIONS

The widespread tendency to focus on specific characteristics of the panopticon is hardly surprising, given Foucault's (1977) often contradictory,

vague, and sometimes brief passages. As a whole, *Discipline and Punish* (1977) is apparently marked by a number of contradictions, the most obvious being an instance of violent closure, literally confinement, bumping up against the poststructuralist aversion to binary systems or Cartesian models. Following a philosophical tradition overdetermined by questions of vision and light (cf. Jay, 1993) David Michael Levin (1997: 404) also argues that the thesis of self-discipline and governance in Foucault's carceral vision machine is dependent upon the very object of critique: the hegemony of light, vision and the gaze. Thus, without being able to view the guard in the centrally-located tower, an all-seeing gaze is marked yet masked, at once visible and invisible. Foucault's thesis follows that, since prisoners must therefore assume that they could be at any time under the watchful eye of the tower, they begin to self-discipline their behaviour.

However, through suggesting the link to contemporary forms of data storage, Foucault (1977: 198) reminds us that the panopticon is both a system of light and language: a system of optic surveillance that is predicated upon – and reinforced by – the documentation and distribution of personal information. Likewise, Gilles Deleuze notes the productive tension in Foucault's work between the use of the visible and expressible: '[L]anguage coagulates around a corpus only in order to facilitate the distribution or dispersion of statements and to stand as the rule for a "family" that is naturally dispersed' (1986: 18). Thus, in addition to the visual element of power, of self imposed discipline driven by an inability to see agents of authority, the panopticon provides a simple classificatory architecture, an archive in which individuals, or bodies, are separated and classified with the assistance of files.

In addition to questions of light and language, Foucault's writings also offer a seemingly ambiguous theory of surveillance, institutions, and space. While Foucault seemed almost caught off-guard by such criticisms in a published interview in *Power/Knowledge* (1980), his attachment to enclosed spaces in other works such as *Madness and Civilization* (????) and *The Birth of the Clinic* (1973) are explicitly described as 'a generalizable model of functioning: a way of defining power relations in terms of everyday life' (1977: 205, emphasis added). Nevertheless, Foucault's one attempt to give a geographical representation of panopticism at the outset of *Discipline and Punish* is a decidedly indexical or archival form of surveillance:

At the beginning of the 'lock up', the role of each of the inhabitants present in the town is laid down, one by one; this document bears 'the name, age, sex of everyone, notwithstanding his condition': a copy is sent to the intendant of the quarter, another to the office of the town hall, another to enable the syndic to make his daily role call. Everything that may be observed during the course of the visits – deaths, illnesses, complaints, irregularities – is noted down and transmitted to the intendants and magistrates. (1977: 196)

In addition to lingering architectural and spatial questions, a pivotal dimension of Foucault's powerful discriminatory apparatus, particularly for contemporary studies of consumer surveillance, is the exposition of data accumulation, or the means by which information is 'solicited' from individuals. To this end, there would seem to be little question that Foucault's panoptic architecture remains formidably closed and static, for prisoners are fixed in their respective cells, with no possibility of movement or escape from the potential gaze of the centralized tower. In fact, one might argue that the panopticon's prisoners, as surveyed data-subjects, are categorized and segmented before they are 'solicited', albeit quite forcefully, for personal information (e.g. behaviour). That is to say that it is the prison's architecture, the spatial segmentation of bodies within a system of light, that facilitates the accumulation of information. Then again, in keeping with his previous thoughts on broader topographical questions, Foucault maintains that he is not so much concerned with the specifics of architectures as with the general deployment of a system of power that called upon individuals to self-discipline their own behaviour. Thus, Foucault's invocation of an ongoing system of 'continuous registration, perpetual assessment and classification' (1977: 220) that increases its efficiency through 'increasing its own points of contact' (1977: 206), raises the question of how we might conceptualize the multiple interactions between *mobile* subjects and geographically-dispersed technologies of surveillance.

In particular, the overtly fixed nature of confinement and discipline in the case of the panoptic prison would tend to erase the technological nuances of data accumulation – i.e. the significance of repetition, habit, corporeal movement, and the flows of everyday life. Moving from the study of criminal classification to libidinal archives, however, Foucault later suggests in the *History of Sexuality* that behaviour is also modified through its placement into language, whereby the confession of a secret produces a paradoxically unadulterated 'truth' (1978: 61). And while Foucault again focuses on the practice of confessions in institutionalized religion, he is quick to extend this logic into the realm of the topographical, where:

The obligation to confess is now relayed through so many points, is so deeply ingrained in us, that we no longer perceive it as the effect of a power that constrains us. (1978: 60)

Typically, theorists of consumer surveillance have viewed Foucault's qualifications and generalizations of panoptic surveillance as inconsistencies and limitations. All too often, such critiques have focused on the prison at the expense of panopticism, or the technology as opposed to the technique. However, this article argues that the panoptic process, manifest in consumer surveillance technologies, is driven by a panoptic 'generality', characterized

herein as a blueprint or carceral ‘diagram’. For as Foucault (1977) reminds us, the panoptic ‘dream building’ was but a

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 political technology that may and must be detached from any specific use. (1977: 205, emphasis added)

MOLDING THEORIES OF SURVEILLANCE

Dataveillance, enticement, and synopticism

‘Dataveillance’ was first defined by privacy expert Roger A. Clarke as ‘the systemic use of personal data systems in the investigation or monitoring of one or more persons’ (1988: 499). From the outset, then, Clarke’s project clearly focused on how new information and communication technologies extend the power to monitor the actions of individuals and communities. The term ‘dataveillance’, however, also obviously suggests that the act of surveillance is enabled, and perhaps even enhanced, through the close monitoring of information produced by consumer interactions and exchanges (e.g. credit card purchases, ATM withdrawal, etc). In ‘Information Technology and Dataveillance’ (1988), Clarke thus set out to distinguish the study of dataveillance from forms of mass and personal surveillance by concentrating on the use of computerized storage and networking technologies – in short, discussing the various techniques of computerized monitoring. Moreover, dataveillance entailed decentralizing the panoptic mode of surveillance, calling into question the production of risk management tools – computer matching or profiling techniques that attempt to attribute general characteristics to individuals. As a discussion of the implications of cross-referencing multiple types of personal information, Clarke’s approach inevitably leads to concern over the failure of such systems – that is to say, the production of ill-fitting profiles that fail to match the actual likes, dislikes, and behaviour of an individual.

While Clarke’s technological discussion of contemporary dataveillance clearly expands panopticism into the realm of decentralized computer databases and accompanying profiling and predictive technologies, seemingly he begins his critique with an already surveyed, or initially classified, subject. Clarke does not question how, when, and where information is collected on individuals. However, as Foucault suggested, panoptic surveillance relies as much on the decentralization of information processing (via decentralized and networked databases) as it does on geographically dispersed, ‘feedback technologies’ that can pinpoint and track the topography of consumer interactions.

Recent updates of the dataveillance literature, particularly by David Lyon, have attempted to address certain gaps in Clarke’s initial work. For example, Lyon qualifies the moment at which information is collected on individuals,

arguing that consumers often trigger their own surveillance. Lyon's most recent book, *Surveillance Society* (2001), also warns that contemporary surveillance technologies are enabled by 'leaky containers'. The metaphor is a compelling one, suggesting the power of networked technologies and the ultimate futility of database security and consumer privacy. However, while the term 'container' suggests an enclosure such as a database, Lyon's sole example discusses the visual collection, and not storage per se, of personal information (i.e. video surveillance of workplace behaviour). Thus, Lyon's leaky container metaphor only points to the convergence of technological systems and subsequent ubiquity of surveillance techniques and technologies in society.

Therefore, we might consider how the collection of personal information is also 'bundled' to the storage and cross-referencing of other data. 'Bundling' is, of course, used to highlight the interface between the collection, storage, and cross-referencing of consumer data and other forms of sales, inventory and distribution data (which are often called just-in-time delivery systems). One such interface, the moment at which individuals are solicited for personal information, is of course the prime focus of enticement theories of consumer surveillance. Such arguments tend to focus on the political or disciplinary consequences of Foucault's work, often asking the question: can we conceive of consumers as conscious or willing participants in their own surveillance? Clearly there are a number of techniques used to solicit information from users, some are relatively transparent and carry little disciplinary implications for non-participation, such as being asked to fill out a survey in a shopping mall. Computer-aided solicitations, by comparison, tend to be much less forgiving, or exclusively rewarding – in other words, they very subtly integrate both rewards *and* punishments. For example, shoppers who decline or merely neglect to sign up for barcoded discount cards end up paying a significantly higher price for an increasing array of products. Thus, even if a consumer knows that information is being collected on them, the choices are either participation or the default 'punishment' of a higher price. Simon Davies aptly refers to this incentive to 'opt-in' as the 'illusion of voluntariness' (1998: 144).

The assumption that one can voluntarily opt-in or out of data collection techniques is of course not even an option for some feedback technologies. ATM machines, portions of the world wide web, and credit card transactions, for example, *automatically* collect personal information from users. Thus, just as the panopticon automates the process of its prisoners self-disciplining their behaviour, likewise these technologies automate the collection of personal information (or transaction-generated information and subsequent 'choice' to divulge personal information). Ultimately the conclusions of the enticement argument are somewhat clouded by an overly strict and coercive definition of panoptic surveillance. Unfortunately, such

revisions to Foucault's work often lend themselves to equally rigid terms, albeit defined as open, optional, and transparent. The more subtle definition of feedback technologies espoused here of course requires a rethinking of the nature of consumer exchanges, one that questions the degree to which the production and collection of transaction-generated information becomes an inseparable and continuous part of the act of consumption – be it defined as purchasing, booking, browsing, or requesting information on products or services.

The question of technological control, discussed by both enticement and dataveillance scholars, is by contrast largely bypassed in Tim Mathiesen's (1997) theory of synopticism. While some might be inclined to see his inverted critique of panoptic surveillance as a wholesale rejection of Foucault's disciplinary thesis, Mathiesen significantly notes that the synopticon works in 'parallel to the panoptical process' (1997: 219). Perhaps as a way to generalize Foucault's concern with social forms of control, Mathiesen points to the mass media as a pivotal space where the many watch the select few opinion leaders and celebrities. Unlike Foucault's panopticon, the automatic modification of behaviour in the synopticon is much less obvious. Mathiesen argues that social control is exerted by media messages 'disciplining our *consciousness*' (1997: 230). And while there is general agreement that television and its 'few' possess varying degrees of power to cultivate the terms of political, economic, and social debate and consciousness, this synoptic process is also greatly enhanced through more traditional panoptic techniques – a parallel process which Mathiesen recognizes, but does not develop.

Synoptic viewing of television programming is increasingly facilitated by a panoptic process integrated into both the medium of television and by extension the act of watching television. For example, recent digital TV technology has begun to incorporate the collection of personal information within the act of viewing and recording programming. Initially marketed as a stand alone personal or digital video recorder, TiVo has recently been incorporated into cable receivers by major US digital cable (AT&T Broadband) and satellite television providers (DirecTV). Moreover, television scholar William Boddy notes that:

One feature of the personal video recorder of enormous appeal to networks and advertisers is its ability to continuously track users' viewing preferences, offering sponsors and broadcasters the long-sought ability to deliver tailored commercials to individually-targeted consumers. General Motors, for example, has partnered with TiVo to allow the replacement of a GM broadcast advertisement with another commercial previously downloaded on the household's PVR, one tailored to the consumer's specific viewing habits and demographic profile. (1999)

The pivotal shift that TiVo adds to the synoptic act of television viewing is the recommendation–customization function. According to the corporation, TiVo ‘uses Anonymous Viewing Information to develop inferences that people who watch show X are likely to watch show Y’ (TiVo Inc., 2001: 16). Based upon this process of viewer profiling, TiVo recommends like-minded programming. In other words, if a viewer watches *Monty Python*, TiVo would most likely recommend John Cleese’s *Fawlty Towers*. Or if one were to routinely watch re-runs of *Cheers*, TiVo would likely recommend the spin-off *Frasier*. In addition to serving as a recommender system, the viewing data that TiVo collects also serves to link specific advertisements to a subset of consumers who have previously demonstrated, through their viewing habits, an affiliation with the product or service. The panoptic power of TiVo thus raises questions far beyond those posed by the synoptic relationship between the viewer and the viewed, whose claims to privacy and ‘resistive readings’ are constantly debated. In short, TiVo reminds us that the select few that we watch (synoptically) are becoming even more select (via a panoptic process) – i.e. that viewers are receiving exceptionally familiar (and similar) programming.

Significantly, this subtle form of limiting access to *difference* does not rely upon individualized forms of identification – a process that individual privacy advocates continue to question. In fact, TiVo goes out of its way to emphasize that all information collected on viewers is anonymous. Panopticism, as such, does not ‘multiply the individual’ (Poster, 1990: 97), as much as it uses the collection of personal information in order to discriminate individuals into previously categorized consumer lifestyle groups or ‘profiles’. The always already discriminated and profiled data-subject/consumer thus highlights the need to theorize the reproduction of panoptic surveillance – that is, the means by which the collection, storage, and cross-referencing of personal information continuously inform each other. This cybernetic aspect of panoptic surveillance requires a rethinking – and redrawing – of the panoptic diagram.

A MODULATING THEORY OF SURVEILLANCE

The term ‘diagrammatics’ has been evoked by a number of individuals associated with the philosophy of art, logic, and language. Apart from the previously quoted passage from *Discipline and Punish*, Foucault himself makes no other specific references to ‘diagrams’, a diagrammatic method, or perhaps on a more general level, contemporary information and communication technologies. Therefore, an explicitly diagrammatic approach has been largely conferred onto Foucault’s works by the likes of Gilles Deleuze. John Marks rightly argues that Deleuze’s primary purpose in consistently returning to the concept of the diagram was to push the limits of Foucault’s ‘spatial metaphors’ (1994: 98). Hence, in an attempt to capture

the tension between these two authors, D.N. Rodowick has argued that perhaps:

The most succinct way of defining the diagram is to call it a map of power – diagrammatics is the cartography of strategies of power. As such, the diagram produces an historical image of how strategies of power attempt to replicate themselves in forms of surveillance, documentation, and expression on one hand, and in the spatial organization of collective life on the other. (1990: 17)

As is often customary, the death of Gilles Deleuze over a decade after Foucault's passing has heightened the mythical narratives surrounding these two influential philosophers. It would seem as though the numerous published exchanges, interviews, collaborations, and references to each other's work have even downplayed any sustained critical discussion of the productive differences between them. Such exchanges have been distinctly complementary and collegial in tone, choosing to emphasize, for example, a shared commitment to conceptualizing 'tools' or methodologies for political life. (Deleuze and Foucault, 1972) In the preface to Deleuze and Guattari's *Anti-Oedipus* (1983), Foucault insists that: 'Informed by the seemingly abstract notions of multiplicities, flows, arrangements, and connections [Deleuze and Guattari's work] yields answers to concrete questions' (1983: xii). Likewise, Deleuze characterizes Foucault's work as engaging in the study of 'precise archives', employing 'extremely new historical methods' (1992a: 165).

It was not perhaps until the publication of the essay 'Postscript on Societies of Control' (Deleuze, 1992b) and the book *Foucault* (1986) that Deleuze began to explicitly question and bridge the relationship between panoptic forms of surveillance and contemporary information economies. This translation of sorts can be conceptualized as a shift from architectural and optical modes of surveillance towards the integration of dispersed sites of information solicitation within simulational feedback loops. Deleuze questions the applicability of spaces of enclosure with direct reference to his colleague Foucault, arguing that disciplinary apparatuses (panopticon prisons, hospitals, and factories) function as mere 'Enclosures' or 'molds, distinct castings', whereas throughout geographic spaces, 'controls are a modulation' (1992a: 4) For Deleuze, the concept of 'modulation' emphasized the manner in which relations of power are themselves reproduced in, and through, technological networks. Similarly, Francisco Varela compared the 'allopoietic' machine, which produces 'something other than themselves' in the process of constituting 'their own organisation and limits', to the modulating 'autopoietic machine' which, conversely, attempts to 'replace their components in the process of continually compensat[ing] for the external perturbations to which they are exposed' (Guattari, 1995: 39).

Thus, in attempting to offer a corrective to the Foucaultian panopticon, Gilles Deleuze offers the concept of 'rhizomatic' or nomadic movement. Deleuze posits his contemporary rhizomatic-inspired 'diagram' as existing in a perpetual state between the architectural processes of drawing and building; and in so doing he attempts to avoid the primacy of the visual or fixed architectural structure (enclosure). Hence, in Deleuze's own words:

The diagram is no longer an auditory or visual archive but a map, a cartography that is coextensive with the whole social field. [Furthermore the] diagram is a map, or rather several superimposed maps. And from one diagram to the next, new maps are drawn. Thus there is no diagram that does not also include, besides the points which it connects up, certain relatively free or unbound points, points of creativity, change and resistance, and it is perhaps with these that we ought to begin in order to understand the whole picture. (1986: 35, 44)

It is this cybernetic and topographical dimension of both surveillance and simulation – originally characterized by its complex 'pattern of computation' in the act of 'forecasting the future' (Wiener, 1948: 13) – that again has been largely overlooked in contemporary Foucaultian-inspired or panoptic studies of personal information, consumer data and information technologies. Taking a diagrammatic approach to panoptic surveillance, conversely requires us to conceptualize the manner in which modes of data accumulation, storage, and processing are networked in an increasingly dispersed and automated infoscape.

Perhaps mindful of criticizing the recently-deceased Foucault, Deleuze at once juxtaposes and links the disciplinary logic of the panopticon from its architectural 'molds' to a theory of power based on 'modulations'. Thus, in a telling passage from the essay 'What is a Dispositif?', Deleuze walks a fine line between Foucault's Panopticon merely describing 'the history of what we gradually cease to be', and a much more schematic difference between 'closed disciplines' and systems of 'overt and continuous control' (1992, 164). While implicitly siding with Marxists such as Henri Lefebvre, who believed that Foucault failed to theorize the 'collective subject' (Soja, 1996: 146), Deleuze also juxtaposed the individualistic element of disciplinary society with that of societies of control:

Disciplinary societies have two poles: signatures standing for *individuals*, and numbers or places in a register standing for their position in a *mass* . . . In control societies, on the other hand, the key thing is no longer a signature or number but a code. (1995: 179–80)

Departing from molds or architectures of confinement, that segmented, categorized and disciplined individual 'deviants', Deleuze's thoughts on the diagram attempt to account for the systemic modulations of populations by

technological machines and information flows. However, unlike Levin's synoptic assertion that Foucault's 'debilitating blindspot' was an absence of 'different contemporary gazes, multiplied and strengthened by our visual technologies' such as television (Levin, 1997: 446), Deleuze's diagrammatic model emphasizes the simulational aspect of technologies that formed 'a system of varying geometry whose language is digital' (1995: 178). Thus, for Deleuze, the diagram provides a conceptual model for the process of encoding, distributing, and deploying information flows from decentralized apparatuses.

In an attempt to explicate the artistic, corporeal, and rhythmic dimensions of simulation, Deleuze initially appropriates the notion of a diagram from Francis Bacon (as discussed in his thoughts on the process of painting). Deleuze was captivated by Bacon's self-described moment of 'subversion' where a painter's brush creates a chaotic moment on the surface of the canvas. According to Ronald Bogue, Bacon dubbed such 'limited catastrophes' a 'diagram'. However, expanding the discussion to the movement of painting, Deleuze maintained that such diagrams were also characterized by the potential for corporeal rhythm. (Bogue, 1991: 120) In this respect, Deleuze related his belief in the continuity and circularity of thought-action – or language-speech – to the realm of production and representation. Hence, before the artist's brush even touches the canvas, the painter's actions and motions are *always* within the painting. In Deleuze's own words:

There is thus preparatory work that fully belongs to painting. This preparatory work may take the form of sketches, but not necessarily, and even sketches do not replace it . . . This preparatory work is invisible and silent, but nevertheless very intense. (1993: 193)

While Gilles Deleuze defines diagrammatic production as a corporeal and simulational process, Felix Guattari's definition stems from a distinctly polemical critique of the celebrated semiotic theories of American philosopher Charles Peirce. Guattari specifically challenges Peirce's inclusion of diagrams as icons, and in so doing he draws a distinction between signifying and a-signifying semiotics. For Peirce, a diagram is a representational icon, whereas for Guattari, 'the image is both more and less than the diagram: an image reproduces certain things that a diagram does not, while a diagram captures better than an image functional articulations' (Genosko, 1996: 17). Thus Guattari's notion of a diagram is often described as a sign machine or blueprint, rather than a chain of signifiers. Putting this diagram or sign machine to work thus requires the

operationalization of signs, this work of diagrammatization . . . [becoming] the necessary condition for the de-territorializing mutations that affect the fluxes of

reality; no longer is there representation, but simulation, pre-production, or what one might call 'transduction'. (Guattari, 1995: 1977)

In addition to the sign or signifier, Guattari also used the example of the index to define an a-signifying semiotics, typified by the diagram. Guattari argued that in Peirce's schema, indexes function as territorial signifiers pointing to fixed spaces and phenomena, as does, for example, a road map. However, according to Guattari, diagrams also 'incorporate certain habits involved in the *creation* of graphic abstractions . . . they also have the indexical feature of pointing "There!"' (Genosko, 1996: 18). For both Deleuze and Guattari, this ongoing *production* of relationships and associations, while characterized by a certain level of abstraction, is also grounded in a functional, spatial politics – one that attempts to locate and map the circulation of information, data, power, and control. Explaining the shared approach, Guattari offers the wonderfully succinct comment:

We're strict functionalists: what we're interested in is how something works, functions – finding the machine. But the signifier is still stuck in the question 'What does it mean'. (Guattari, in Deleuze, 1995: 21–2)

With the emergence of increasingly complex and 'inhabited' virtual spaces, transjurisdictional territories and intranets (computerized informational networks), archives of information are now characterized by their multiple sites, processes, and techniques of input, storage, and retrieval. In such a state of flux, Deleuze and Guattari rightly focus their attention on the function of territorializing 'machines', mapping the real-time machinations of a data *dispositif*. Engaging the concept of the diagram from Bacon, Pierce, and Foucault, Deleuze and Guattari introduce the possibility of tracing or sketching the continuity between light and language. In the realm of contemporary infomatics the diagram therefore affords us the possibility of tracing the everyday data-economy, in which habits, routines, rhythms, and flows are digitized, coded and diagnosed for the purposes of control. Relating such a diagrammatic approach to the information economy, one need only look to our daily routines to note the impressive breadth of solicitations that have for the large part been automated within other areas of cultural practice – most notably consumption. Solicitations of personal information are not so much expressed or articulated as much as they are automated and networked into other 'duties'. Foucault's contributions to this diagrammatic approach to the information economy are in this regard quite clear. In large part, the diagrammatic power of the panopticon lies in its claims to continuity and automation, that is, its ability to function without the need for direct supervision and intervention (cf. Dandeker, 1989). In the information economy, such automated systems attempt to continuously collect information on individual behaviour – what

Foucault dubbed ‘confessions’ with respect to organized religion – to such an extent that individuals regard such solicitations as integral exchanges in everyday life.

Reworking Foucault’s panoptic generality toward contemporary, digitized technologies of control, Gilles Deleuze characterizes diagrammatics as a simulational process in the making. By focusing on the importance of Bacon’s ‘chaotic’ moment, the coming to the fore of a set of loosely pre-planned ideas, sketches and representations, Deleuze explicates not only the always and already constituted field of expression and representation (or discriminated and segmented consumers), but also the inherent difficulty in predicting effects (or the wants and desires of consumers). To Foucault’s notion of continuity and automation, Deleuze thus adds the circularity or cybernetic dimension to diagrammatics – the manner in which signifieds and the process of signification are continuously reconstituted by each other. Within the context of corporeal movement, and of course moving away from Foucault’s confined body, Deleuze also subtly questions the significance of such cybernetic loops for the everyday rhythms and routines of corporeal movement. Within the context of consumer routines, however, Deleuze’s point offers distinct implications for the interaction between mobile subjects and sites of demographic and psychographic solicitation. As such Deleuze again moves toward a more expansive topographical view of exchange, whereupon power implicates – and is implicated by – particular places, spaces, and technologies.

Lastly, Guattari’s critique of Charles Peirce’s semiotics imbues diagrammatics with distinctly diagnostic and machinic qualities. Clearly, Guattari is incredibly frustrated with semiotic debates over signs, signifiers, and symbols. As such, Guattari’s critique focuses on the innocence with which the processes of signification has abstracted itself from the reproduction of not only social symbols, but also the practice, art, and spaces of signification and representation itself. Signification in this diagrammatic sense subsequently incorporates a decidedly economic and machinic element, calling into question the traces of past, present, and future techniques and technologies of rationalization.

INTRANSIGENT FAMILIARITY

As a predictive technique, then, the panoptic diagram calls upon an all-too-familiar aggregated past to subtly limit access to different futures. The removal of uncertainty, and by extension the need to make conscious decisions, is replaced by an uncannily familiar world of images, goods, and services. Such is the case with digital television and a host of techniques on the world wide web, where programming/content is sometimes automatically filtered down to reflect past viewing choices. As we saw in the TiVo example, such a networked view of the personal information economy

takes us beyond the problematics associated with systems of personal identification, or for that matter, techniques of individuation (in a cell or computer file).

While consumer surveillance often ends up exposing our private lives (transactions, demographics, etc) to the world – hardly surprising given the porous state of computer security and privacy laws – its diagrammatic characteristics also call into question the increasingly intransigent (or disciplinary) technique of making aggregated past consumer behaviour (consumer profiles) an instrumental blueprint for possible future consumer products and services, indeed the very functioning of digital media itself. For example, a TiVo receiver/recorder fails to function if it is disconnected (via a phone line) from the corporation's main office.

The diagrammatic view of panoptic surveillance, consequently, argues that subjects are not simply surveyed, monitored, or solicited for the purposes of automating a self-medicating acquiescence to social norms and rules (as some Foucaultian scholars might argue). In the panoptic diagram, consumers are not exclusively disciplined – they are both *rewarded*, with a preset familiar world of images and commodities, and *punished* by having to work at finding different and unfamiliar commodities if they attempt to opt-out. The panoptic diagram, in other words, only disciplines consumers if they actively seek out the unfamiliar, the different, the previously unseen, purchased, or browsed. The need to dissuade such transgressive behaviour through rewards and punishments is of course a technological requirement for diagrammatic 'just-in-time' systems, where changes in any one aspect of consumer demand–sales–consumption–distribution–production can drastically affect the whole system.

Thus, as we watch and monitor others and are ourselves monitored, our preferences are fed back to us, producing an all-too-familiar environment. We are continuously solicited, either with a 'more of the same' product, or yet more inquiries meant to be cross-referenced to monitor new trends, changes in taste, or simply to refine the effectiveness and precision of the diagrammatic process itself. As a consequence, we may soon find it compellingly easy and convenient to consume 'more of the same', or conversely, increasingly more difficult to find something different.

Notes

- 1 Cf. <http://www.anu.edu.au/people/Roger.Clarke/>.
- 2 Cf. Elmer (1997) and (2002) for analyses of web cookies.

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