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Abstract

In our contemporary 'information age', information and the body stand in a new, peculiar, and ambiguous relationship to one another. Information is plumbed from the body but treated as separate from it, facilitating, as Irma van der Ploeg has suggested, the creation of a separate virtual 'body-as-information' that has affected the very ontology of the body. This 'informatization of the body' has been both spurred and enabled by surveillance techniques that create, depend upon, and manipulate virtual bodies for a variety of predictive purposes, including social control and marketing. While, as some feminist critics have suggested, there appears to be potential for information technologies to liberate us from oppressive ideological models, surveillance techniques, themselves so intimately tied to information systems, put normative pressure on non-normative bodies and practices, such as those of queer and genderqueer subjects. Ultimately, predictive surveillance is based in an innately conservative epistemology, and the intertwining of information systems with surveillance undermines any liberatory effect of the former.

Although with a few exceptions, gender and sexuality have largely been invisible in surveillance studies, women and queers—that is, those whose bodies, sexual desires, practices and / or identities fall outside of the perceived heterosexual and gender-normative mainstream—have not been invisible to contemporary surveillance technologies.¹ Although, similarly, surveillance *per se* remains largely unremarked in gender and queer studies and theories, the disciplines have much to offer each other. As I have suggested elsewhere, "the conjunction of queer studies and surveillance studies has the potential to illuminate the relationship between the state and private forces that shape space, behaviour, subjectivity, consumerism, and citizenship" (Conrad 2009). This essay explores the implications of the increasing 'informatization of the body' (van der Ploeg 2003: 58) in the context of surveillance, the relationship of feminist / gender theory to the ontological shift effected by this informatisation, and the impact of information surveillance and predictive models on non-normative bodies and practices, particularly genderqueer subjects.²

Predictive justice, predictive marketing: the rise of the virtual body

The rise of the virtual body has its roots in the interconnection between new information technologies and new directions in surveillance. Several scholars have noted that the rise of the contemporary surveillance society corresponds with 'a new form of penology based on "actuarial justice", which is legal abandonment of individualised suspicion' (Norris & Armstrong 1999: 26). The result, as William Staples

¹ See, for example, Brown 1998; Norris and Armstrong 1999: 127-30; Koskela 2002; Conrad 2009.

² I use 'genderqueer', following Nestle, Wilchins, and others, to indicate those people and practices that do not fall neatly into the normative binary categories of male/masculine/man and female/feminine/woman. Since the term 'queer' itself is often used to indicate people and practices that disrupt the alliance between gender, biological 'sex', and desire / sexual object choice, 'genderqueer' may be seen as a subset of this larger term.

puts it, is that 'we may be witnessing a historical shift from the specific punishment of the individual deviant to the generalized surveillance of us all' (Staples 1997: 6). This shift is part of a larger attempt to manage risk—a 'shift away from strategies of social control which are reactive (only activated when rules are violated) towards proactive strategies which try to predict dangers one wishes to prevent' (McCahill 1998: 54). More technologically advanced versions of this 'proactive' approach rely on 'dataveillance', or the surveillance of data, which is much cheaper as well as more comprehensive than physical surveillance techniques (Clarke 1994). The proactive approach also relies on predictive models and simulations. As David Lyon argues, behind this proactive approach is the assumption that gathering more and more information can lead to complete knowledge and thus more effective prediction (Lyon 2001)—a claim to which I will return later in this article.

The motivation toward body surveillance as a more effective predictive tool is based on an assumption that the information gleaned from biometric technologies is more reliable than other kinds of data (Staples 1997). Faith is placed in the anatomical body as a repository for correct information about the subject, bypassing the mediating filter of human language, memory, desire, need, and so forth—that is, the complex and fallible human subject her- or himself.

But perhaps paradoxically, since our culture has had an ambivalent relationship to the body, the data gleaned from the body has increasingly been privileged over the material body itself. Indeed, as N. Katherine Hayles as put it, since World War II, information has 'lost its body' (Hayles 1999). In her examination of cognitive science, philosophy, literature, information theory, cybernetics, and other disciplines and trends, Hayles traces a shift in Western thought toward the 'erasure of embodiment' (4) and toward seeing human consciousness as disembodied information. The physical body, in this 'posthuman' view, is effectively a prosthetic for thought and information, and 'embodiment in a biological substrate is seen as an accident of history rather than an inevitability of life' (2).

Following Hayles, Irma van der Ploeg suggests that 'this "informatization of the body" may eventually affect embodiment and identity as such. We may need to consider how the translation of (aspects of) our physical existence into digital code and "information," and the new uses of bodies this subsequently allows, amounts to a change on the level of ontology, instead of merely that of representation' (van der Ploeg 2003: 58-9). In other words, the body itself is changing as a result of new information technologies and the ways in which we interact with them. She continues, 'with technological and discursive practices converging toward an ontology of "information," it is unlikely that their mediating link, embodiment—even while acknowledging its constraining and limiting power—will remain unaffected. And because embodiment concerns our most basic experience of the body and of being in the world, these developments carry profound normative and moral implications we ought to attempt to uncover' (59).

In short, the information gleaned from body surveillance is not merely a 'data image', an irrelevant or circumstantial collection of information, but indeed is constitutive of the body. There is no distinct line between the biological body and the 'virtual body', to use another of van der Ploeg's terms; and when the virtual body is circulated, probed, even stolen (as in the case of 'identity theft'), those actions can impact the lived experience of the body. As van der Ploeg points out, 'the new, intensive forms of monitoring, categorizing, scrutinizing and, ultimately, controlling and manipulating of persons through their bodies and embodied identities that become possible in this new ontology suggest that some form of integrity of the person may be at stake' (71).

It is worth pointing out that the virtual body appears not simply as the outcome of surveillance in a criminal justice or medical context. A Google search on the terms 'virtual body', for instance, brings up

links to anatomical / physiological models,³ but also brings up the suggestion to 'see results for: *virtual model*' and links to sites that feature 'My Virtual Model', the latter proclaiming

Brand ME
I am the brand and
Introducing the FACE
Your model is now YOU⁴

'My Virtual Model' provides visitors with the opportunity to enter data about their bodies in order to create a virtual image that enables them, for instance, to 'try on' clothing to make more informed purchases, to create an avatar to use in interactions on social networking sites, and to predict and visualise the changes in their biological bodies as the result of weight loss.

In rather obvious terms, the site encourages the connection of self, avatar / virtual body, and consumption. What these sites illustrate is the extent to which the drive toward information gathering is driven as much by consumer capitalism as by criminal justice. There is a parallel drive between the 'actuarial justice' that surveillance has enabled and the 'predictive marketing' enabled by new information technologies, particularly those operating on the internet via 'data mining'—both part of the larger trend of 'dataveillance'.

Such sites also offer the experience of the virtual body as one of agency and control. But as Lyon has noted, 'the combined influence of deregulation and risk management has done much to permit leaky containers to develop'—i.e., the sites where surveillance data is contained are not 'discrete' or 'sealed' (Lyon 2001: 39, 38, 37). As much as one might like to imagine the virtual body as a discrete entity within one's own control, the body-as-information is dispersed widely throughout an ever-proliferating number of information systems. Further, Hayles, following Frederic Jameson, notes that 'when bodies are constituted as information, they can not only be sold but fundamentally reconstituted in response to market pressures' (42).

Feminist theory and the transformative potential of the body-as-information

In short, the informatisation of the body has worrisome implications, as Lyon, van der Ploeg, and Hayles suggest above. At the very least, the technological advances of dataveillance have largely progressed more quickly than the careful discussion of the ethical, moral, philosophical, and legal issues they raise.

But the risks of this informatisation of the body have not been acknowledged by feminist and queer studies. The lack of attention to the problems inherent in the rise of the virtual body may be in part because both the 'posthuman' and feminist and queer theory emerge, as Hayles reminds us, out of a critique of the liberal humanist subject (Hayles 1999: 4). The myth of the universal subject, dependent on the far-from-universal Western white male experience, have tended to erase the voices, experiences, and contributions of those who fall outside of this model. But Hayles also notes that 'embodiment has been systematically downplayed or erased in the cybernetic construction of the posthuman in ways that have not occurred in other critiques of the liberal humanist subject, especially in feminist and postcolonial theories' (4).⁵ At the same time as these new ways of thinking about the human provide a critique of the liberal humanist subject, 'to the extent that the posthuman constructs embodiment as the instantiation of

³ Search performed on 22 July 2008. Anatomy sites include MEDtropolis <http://www.medtropolis.com/VBody.asp>, BBC Sport Academy http://news.bbc.co.uk/sportacademy/hi/fun/games/newsid_2124000/2124978.stm, and Human Anatomy Online <http://www.innerbody.com/htm/body.html>.

⁴ <http://www.mvm.com/en/index.php>, accessed 18 July 2008.

⁵ See Fernandez, 1999, for an analysis of the intersection of postcolonial studies and 'electronic media studies' and information technology.

thought/information, it continues the liberal tradition rather than disrupts it' (5). This liberal tradition has, as she suggests, a long history of 'an emphasis on cognition' over embodiment (5).

Contemporary feminist theory's apparent blindness to the risks of informatisation are not only due to the critique of the liberal humanist it appears, at least on the surface, to share with the 'posthuman', but also due to feminist theory's complex and sometimes fraught relationship with embodiment more generally. Some feminists, particularly in the late 1960s and 70s, embraced a concept of 'woman' dependent upon a perceived biological essence, and have celebrated the female body as essential giver of life; but many strands of theoretical feminism have questioned those seemingly 'essential' links between body, 'sex', and 'gender'. Poststructuralist feminism in particular, inspired by writers such as Monique Wittig and perhaps best exemplified in the works of Judith Butler, has been concerned with the ways in which discourse⁶ not only affects women's roles—i.e., 'gender'—but actually shapes the physical body and 'sex' itself.⁷

In Butler's theory, indebted to a range of philosophical traditions including Foucault's conception of gender as constituted by the circulation of power and knowledge (Foucault 1990), the body is always already shaped by discourses, and so 'biological sex' can never be taken for granted as a stable ground on which gender identity is built. In other words, although the body itself has a material reality outside of 'discourse', our understanding of what the body is, including our understanding of its 'biological sex', is shaped by discourse.

Butler is perhaps best known for her often-misunderstood concept of 'gender performativity', the notion that gender is a 'stylized repetition of acts' (Butler 1990: 140). The popular understanding of her work has been that one can change one's gender performance and thereby challenge the entire gender system at will, a misconception she has had to correct in subsequent texts.⁸ Butler, like Foucault, does not suggest that subjects can control the discourse that forms them quite so directly; we operate as gendered subjects within the gendered system, and so deliberate attempts at parody (as in, for instance, a staged drag queen performance) tend simply to reinforce our understanding of 'proper' gender. But *Gender Trouble* does provide a possibility for change, though not a change effected by a conscious subject, when she suggests that 'the possibilities of gender transformation are to be found precisely in the arbitrary relation between such acts, in the possibility of a failure to repeat, a de-formity, or a parodic repetition that exposes the phantasmic effect of abiding identity as a politically tenuous construction' (141). Such a 'de-formity' or 'failure' might look more like what we would call an intersexed or hermaphroditic body: a so-called 'natural' body that does not fit neatly into the accepted gendered/sexed binary, and as such troubles the whole 'natural' binary system.

Butler's 'de-formity', I would argue, parallels the position of mutation in information systems, which may again explain, at least partially, the appeal of the 'posthuman' to some gender theorists. As Hayles explains, 'mutation is crucial because it names the bifurcation point at which the interplay between pattern and randomness causes the system to evolve in a new direction' (Hayles 1999: 33). As with Butler's notion of repetition, no clear agentive subject actively and deliberately introduces randomness into a pattern in information systems. But this lack of agency has not prevented some feminists from imagining the possibility for deliberate interventions into the 'patterns' of information that shape subjects and genders in both more traditional ontologies and in the new body ontology being effected by the rise of information systems.

⁶ I use 'discourse', following Foucault, to mean 'discursive formation', a system of thought that shapes subjects and the worlds in which they exist.

⁷ See especially Butler 1990; Butler 1993; Butler 2004.

⁸ Butler herself acknowledges her ambiguity about the status of the body in the preface to *Bodies that Matter*, noting that people asked her, apropos of *Gender Trouble*, 'what about the materiality of the body, *Judy*?' (Butler 1990: ix; emphasis in original). Her more recent work, especially *Undoing Gender*, grants corporeality and makes clear that discourses shape the body but do not create it.

Indeed, the rise of the information society has led to some hope on the part of some feminists for a liberatory model of the human subject free from potentially oppressive discursive models. Hayles articulates her 'dream' of 'a version of the posthuman that embraces the possibilities of information technologies' (5); 'located within the dialectic of pattern / randomness and grounded in embodied actuality, the posthuman offers resources for rethinking the articulation of humans with intelligent machines' (287). Perhaps the best-known forays into such a 'rethinking' is feminist theorist Donna Haraway's "A Cyborg Manifesto" (Haraway 1991). While acknowledging fully the indebtedness of the 'cyborg'--the fusing of human and machine, which is in her vision tied to information systems--to its roots in 'militarism and patriarchal capitalism' (Haraway 1991: 477), she nonetheless uses the conceit to denaturalise our current epistemologies, to imagine 'a way out of the maze of dualisms in which we have explained our bodies and our tools to ourselves' (491). Her work has inspired cyberfeminist artists and other feminist writers interested in the promise of information technology.⁹

The transformative potential of the cyborg and the new body ontology created through the melding of (embodied) human with information has been embraced in particular by those advocating for a 'postgender' perspective, a 'radical interpretation of the feminist critique of patriarchy and gender, and the genderqueer critique of the way that binary gender constrains individual potential and our capacity to communicate with and understand other people' (Dvorksy and Hughes 2008: 13). The promise of a new body ontology is particularly compelling for those who consider themselves genderqueer or transgender—that is, those whose own bodies do not fit neatly into the current alignment of sex, gender, and subject. Judith Halberstam's exploration of 'transgender' as a term which describes something both embodied (a 'committed rigidity') but with the 'promise of flexibility' (Halberstam 2005: 21), for instance, fits well with and indeed owes much theoretically to the concept of the cyborg. The cyborg provides a model for the subversion of the celebration of the 'natural'—indeed, of the very notion of the 'natural' as a ground that the 'artificial' imitates (Haraway 1991: 483-4). The virtual body or body-as-information in its most radical 'posthuman' form suggests the possibility for subjects to break free from the constraining effects of the material body completely.

The normative effect of surveillance

These more hopeful—and 'hope' is certainly attenuated in Haynes and Haraway—visions of the potentially positive transformative effect of information technologies, however, make little to no mention of surveillance. This oversight on the part of feminist and queer theorists is somewhat ironic, given that the recent history of queers in the West, particularly since the late-nineteenth-century emergence of the concept of homosexuality as an identity, has been in large part a history of surveillance and regulation. Gay and lesbian historiography and cultural studies have shown the particular ways in which non-normative sexual practices have been subject to regulation and surveillance, often in the interests of 'public health', morality, and the health and reproduction, both literal and figurative, of the nation.¹⁰ Indeed, in *The History of Sexuality*, Michel Foucault argues that the idea of sexuality itself was produced through strategies of power/knowledge, particularly through 'biopower', or the power over (biological) bodies shaped by a discourse of 'protecting life' and connected to the development of capitalism (Foucault 1978: 138-45).

The legal regulation of sexual practices as well as the social stigma attached to non-normative sexual identities and behaviours have meant that those people practicing non-normative sex have had to create strategies for functioning in so-called 'normal' society—whether those strategies include 'outing' oneself and working for legal and social change, 'passing' as normative ('straight'), or, as is the case for many, some combination of these and other strategies. In this sense, surveillance contributes to the reinforcement

⁹ See, for instance, VNS Matrix, the South Australian feminist collective: <http://lx.sysx.org/vnsmatrix.html> and http://www.obn.org/reading_room/content.html; and Flanagan and Booth 2002.

¹⁰ See, for instance, Weeks 1989; Weeks 1990; Chauncey 1994; Stychin 1998; Warner 1999; Conrad 2004; Conrad 2009.

of sexual norms both by facilitating exposure for deviance, which is then often punished, and by promoting self-regulation and concealment by those who operate outside of the norms.

Tied closely to the surveillance and regulation of sexual behaviour and identity—tied in part because of the ways gender identity and sexual object choice are linked in the West—is the surveillance and regulation of gender. The genderqueer body—the intersexed, the hermaphroditic, the transgender(ed), the transexual, and even the 'effeminate male' or the 'masculine' female—is one that does not conform to the accepted biological binary of 'man' and 'woman' and/or its attendant 'masculine' and 'feminine' behaviours and physical markers.¹¹ The history of lesbian and gay activism is closely tied to that of genderqueer activism (perhaps first and most obviously with the Stonewall Riots in New York in 1969, which saw the birth both of contemporary gay rights activism and transgender activism), and activism to challenge the gender system is one strategy for confronting a system into which genderqueers have not fit. But even those who are 'out' about their genderqueer status must often 'pass' as one of two genders in order to survive—quite literally—in a two-gendered world. According to the group Gender Education and Advocacy, the between 1970 and 2004, 321 murders of trans people have been tallied; and 'more than one new anti-transgender murder has been reported in the media every month since 1989' (GEA 2004a, c2004b). Although gathering reliable statistics for the number of people killed *because* they were genderqueer is impossible, these statistics along with more publicised cases, such as that of the murder of Brandon Teena in 1993, suggest that being readably genderqueer, at least in the West, still comes with significant risk.

Information technologies, as I have suggested above, have given some gender and queer theorists people hope for liberation from the sometimes oppressive gendered discourses that accompany biological embodiment. But surveillance, whether driven by criminology or marketing, has, as I have suggested above, been the engine for the very informatisation of the body in which these feminist and queer theorists have placed their hope. Further, surveillance, particularly the surveillance tied to prediction, is not only a *use* to which information technologies have been put; it is also the *inspiration* for many of the new developments in information systems technology. And the patterns that those information systems create, collect, and circulate are, in turn, intricately and inextricably bound up with surveillance technologies. This, I would suggest, should lead gender and queer theorists away from information technologies as a tool for the transformation of the human subject.

The predictive models that are at the centre of current surveillance technologies have been created with the goal of prediction and therefore control of the future, but they must rely on the past to do so. The past provides the patterns from which the models take their shape. Given this, predictive models, and the surveillance systems that feed them, are inherently conservative. By this I do not mean to suggest that they are particularly politically conservative; indeed, many political conservatives are just as invested in the ideology of privacy that surveillance constantly transgresses. Rather, predictive models fed by surveillance data necessarily reproduce past patterns. They cannot take into effective consideration randomness, 'noise', mutation, parody, or disruption unless those effects coalesce into another pattern.

This inability to accommodate randomness may simply suggest that predictive models are ineffective. But they are not ineffective; like other surveillance techniques discussed above, they are normative. The potentially normative effect of predictive surveillance might be clearest, and of most concern, in the case of the transsexual body who has transitioned from one gender to another. The virtual body created by data, in the case of a transsexual person, appears contradictory, confusing; the data history for a trans person comprises two bodies (male and female) rather than one genderqueer body. A hopeful reading, inspired perhaps by an optimistic (and selective) reading of Butler, would be that this contradictory data would have the effect of destabilising the gender system. But rather than abandoning the gender system that the transsexual / genderqueer body clearly transgresses, predictive surveillance technology, relying on past

¹¹ For narratives of genderqueer experience, see for instance Nestle *et al.*, 2002; Bornstein, 1994; Wilchins, 1997.

data as it does, can only reinforce it. The material body would thus be pressured to conform or be excluded from the system.

Further, Lyon's concerns about 'leaky containers' of data are heightened when one's data history does not fit into accepted norms. The Director of the National Center for Transgender Equity in the United States, Mara Keisling, has discussed the potential impact of surveillance technologies on transgendered persons, expressing the fear that, for instance, radio-frequency identification (RFID) tags embedded in identification cards—an option initially considered in the United States REAL ID Act of 2005—would allow for the private gender data of a genderqueer person to be read from afar by those with RFID readers (Keisling 2007; NCTEquality 2008). As suggested above, the risks attending the exposure of personal data for a genderqueer person can be profound.

Just as importantly, however, dataveillance that is tied to predictive strategies further embeds the very norms those bodies challenge. At the level of the everyday, such technologies put subjects' ability to control their own self-presentation—and their own decisions to accept, challenge, or 'pass' within the system—even further out of their hands.

Conclusion

The potentially transformative effects of the body-as-information depend at least in part on the subject's ability to control that information. When the control of a person's information is out of that person's hands, however, so too is the nature of the potential transformation. The risks to the individual and to society with the rise of dataveillance are many, as Clarke has enumerated, including discrimination at the level of the individual and repression at the level of government (Clarke 1988). Where non-normative bodies are concerned, the risks can be even greater.

The rise of information technology has corresponded to a rise in predictive surveillance for multiple uses, including marketing and criminal justice. But the information on which predictive models rely is always part of a larger system, embedded both in time and place. To disentangle information from its material instantiation is inevitably to do some violence both to the data and the material. And while this violence may most obviously be felt by non-normative physical bodies, it has the potential to affect us all.

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