

## Lines of sight: on the visualization of unknown futures

Louise Amoore\*

*Department of Geography, University of Durham, Durham, UK*

*(Received 8 May 2008; final version received 13 August 2008)*

This article considers the specific mode of visualization that is at work in contemporary border security practices. Taking inspiration from art historian Jonathan Crary's genealogies of attention, it situates homeland security visuality in a particular economy of attention or attentiveness to the world. How is it that we come to focus on some elements of our way of life, establish them as normal and designate deviations from the norm? How does this algorithmic attentiveness break up the visual field, 'pixelating' sensory data so that it can be reintegrated to project a picture of a person? The pre-emptive lines of sight emerging in contemporary security practice become precisely a means of visualizing unknown futures. The article concludes with reflections on the creative artistic forms of attention that flourish even where the lines of sight of the consumer, the citizen, the border guard, the traveller, the migrant appear ever more directed and delimited. It is in these more creative modes of attention that we find one of the most important resources to contemporary political life – the capacity to question the 'better picture', to disrupt what we see as ordinary or out of the ordinary and confront the routines of our lives anew.

**Keywords:** borders; citizenship; security; resistance; technology; 'war on terror'

We use this data to *focus on* behaviour, not race and ethnicity. In fact, what it allows us to do is move beyond crude profiling based on prejudice, and *look at* conduct and communication and actual behaviour as a way of determining who we need to take a *closer look at*. (US Secretary for Homeland Security Michael Chertoff 2007a, emphasis added)

'The thing about raster graphics', Tariq was saying, 'is that you can precisely manipulate an image by altering a single dot at a time [...] What they'd like to do with real people if they could. I work on bitmaps to make better pictures. That's raster graphics [...]'

She remembered what Tariq had said to her – how it was what they would like to do with real people if they could. But Tariq only changed images, dot by dot [...] They were doing something far bolder: turning her from a woman into cartoons, headlines, opinions, fears, fate. They were morphing her pixel by pixel into what she wasn't, the unknown terrorist. (Flanigan 2006, pp. 76, 260)

### Introduction: making better pictures

Following the conviction and sentencing of the British 'fertilizer bombers' in May 2007, the US Secretary for Homeland Security, Michael Chertoff, spoke publicly about the need to create better pictures of unknown terrorists in advance of their arrival on US shores. In his lecture at Johns Hopkins University, Chertoff placed his emphasis on how to decide what to *focus on*, who

---

\*Email: [louise.amoore@durham.ac.uk](mailto:louise.amoore@durham.ac.uk)

to *look* at, which suspicious behaviour is deserving of *attention*. The significance of his comments far exceeds the specific context of airline passenger data that he is addressing here,<sup>1</sup> embodying a novel and politically significant move in the very visuality of the war on terror. What do these data represent that they can be assumed to so nearly capture a picture of someone who has not yet been seen, who would not otherwise be recognized? If Chertoff is correct and these pixelated people are not seen prejudicially, through racial or other categories, then what are the implications of living with a digital alter ego that, with the contemporary faith in technoscience, cannot be spurned?

The short answer is that the individuated items of data that have become the mainstay of the homefront of the war on terror appear as the ‘dots’ that, if only they can be successfully joined up, are assumed to reveal a picture of an unknown terrorist. Most often derived from the residue of daily life left in the patterns of travel, financial and consumer transactions (Amoore and de Goede 2005, 2008), these abstracted items of data become the nodal points that, when joined in association with other items, are assumed to become an indisputable visualization of a person. It is not strictly, then, a picture or a snapshot of a person that is taken – an image from a specific and limited temporal standpoint – rather, it is a projected line of sight that seeks to capture the ‘unknown unknowns’.<sup>2</sup> To clarify, then, the digital alter ego is precisely a projected person: an image of a potential future person yet to come. As in Richard Flanigan’s startlingly observant novel *The unknown terrorist*, just as the contemporary consumer is targeted via simulated or projected images of her dreams and desires, so the citizen who becomes terrorist suspect finds her real self eclipsed by the projected picture of a dangerous and disturbed body, ‘morphing pixel by pixel’, ‘becoming what she was not’. Like the screened visualizations of migrants and travellers that allow the ‘border guard to become the last and not the first line of defence’, or the London Underground pedestrian surveillance systems that ‘mean you don’t have to watch the screen all the time’, how we see, who we see, to what we give our attention, takes on renewed significance (New Scientist 2003, Department of Homeland Security 2004).

As decisions based on human lines of sight are integrated with computer encoded visualizations, authorities begin to claim that the calculated projections of a person could never be racialized or otherwise violent or prejudicial, and are no longer a matter of profiling. Thus, the still present modes of surveillance based on categories of race are, in effect, masked by an appeal to look at behaviour rather than background. In fact, Chertoff’s claims for the data visualizations of an air passenger were made in the context of a stark choice he presented between denying British citizens ‘of Pakistani origin’ the right to visa waiver – categorizing British citizenship into degrees of risk, singling out those ‘potentially dangerous people’ to whom ‘we should pay greater attention’ – and the acceptance of a system of data mining that already identifies past travel to Pakistan and specific name algorithms, among many other associations, as ‘dangerous’ (Chertoff 2007b). The choice here, of course, is no choice at all, for the algorithmic calculation of who should be looked at more closely simply redraws the lines between those with entitlement (to visa, to cross a border, to be in a public place without disclosure of purpose) and those without. In short, the visa waiver already effectively is withdrawn from many British citizens by other means – via a picture ‘based on behaviour not background’ (Chertoff 2007b).

The deployment in the war on terror of ways of life, broadly defined – conduct, behaviour, social custom, movement across a railway platform or airport terminal – is, in many ways, nothing new or significant. Recall in the aftermath of 9/11 how the routines of daily life were called up as a source of resilience. ‘We were told to shop’, says Susan Willis, ‘shop to show we are patriotic Americans. Shop to show our resilience over death and destruction’ (2003, p. 122). The London bombings on 7 July met with similar celebrations of the ‘vibrant and resilient city, getting back to normal, going back to work, getting back on the Tube’. Yet, there is a need to be cautious with the treatment of culture in the practices of homeland security. Culture, Derek

Gregory explains 'is never a mere mirror of the world', we can never simply hold up the looking glass of culture to shed new light on contemporary economy or society. Rather, 'culture involves the production, circulation and legitimation of meanings through representations, practices and performances that enter fully into the constitution of the world' (2004, p. 11). In the specific and situated circumstances I am interested in here, culture embodies and advances a visual economy – a means of apportioning, segregating, singling out for our collective attentions. How do ways of life come to be known and recognized as such? How is a 'normal' way of life settled out, and how does it identify deviations from norm? What does the call to attentiveness to 'conduct' or 'behaviour' ask us to pay attention to? How do we know what it is that we should pay attention to? As in contemporary profiling of consumers in the marketplace – where the as-yet-unencountered unknown consumer is the holy grail sought via fragments of data on their conduct and behaviour – so in today's homeland security practice, the unknown terrorist is rendered knowable through the fractured bits and bytes of a way of life.

In this article, I consider this economy of attention or attentiveness to the world, how it is that we come to focus on some elements of our way of life, establish them as normal and designate deviations from the norm. How does this attentiveness break up the visual field, 'pixelating' sensory data so that it can be reintegrated to build a picture of a person? Throughout, I am inspired by the work of art historian Jonathan Crary, whose careful and detailed genealogies of attention and its role in human subjectivity have urged us to consider that modern sensory stimuli are not primarily about making a subject *see*, but about 'strategies of isolation and separation' (1999, p. 3). Understood in this way, lines of sight are not only about the vigilant modes of visual culture I have discussed elsewhere (Amoore 2007), but they are also lines that segregate and divide, 'dividing practices' that render ways of life economic, make them amenable to management, trading, or exchange.

I begin by thinking through what it means to 'pay attention' in the context of calculable lines of sight that coalesce commercial and security practices. I then move to consider how individuated 'dots' of data become reintegrated into the visualization of a person, how it is precisely that the unknown risk comes to be perceived. Throughout, I am interested in how this mode of attentiveness targets, how it draws disparate elements of life into close association in order to designate the 'norm' and to project what is abnormal or out of the ordinary. Finally, I conclude by reflecting on the creative forms of attention that flourish even where the attentiveness of the consumer, the citizen, the border guard, the traveller, the migrant appears ever more directed and delimited. It is in these more creative modes of attention that we find one of the most important resources to contemporary political life – the capacity to question the 'better picture', to disrupt what we see as ordinary or out of the ordinary and confront the routines of our lives anew.

### **Because culture has an economy: are you paying attention?**

Among the careful plastic-windowed advertising posters on the London Underground – 'register for Oystercard and get 10% off in London's museums and galleries'; 'enter an art competition and design a future Tube station'; 'download coupons to your mobile phone' – the Metropolitan Police Anti-terrorist hotline posters call us to attention: 'if you suspect it, report it'; 'look out for unusual or suspicious activity'; 'use all your senses'; 'you are that someone'. In so many ways already part of the prosaic and unnoticed sensory backdrop to the daily commute, the specific call for attention at the homefront of the war on terror asks us to single out, from the cacophony of background noise in public spaces, that which demands a closer *look*, that which is out of the *ordinary*. How should we understand this mode of attentiveness? Indeed, is it of significance at all? As art historian Jonathan Crary has argued, the significance of attention and

attentiveness to the world is not merely cultural, not confined in its implications to the histories of visual culture. Rather, modes of attention and attentiveness are also acutely material – central in modern times to the way that ways of life, culture and cultural difference are made governable. What we see, how we see, what is made visible, how visualization occurs – these are not simply the cultural dimensions of a material life, but instead they are the very essence of an economy of culture. That is to say, practices of attention themselves embody an economy – a means of representing and acting on the world such that it can be apportioned, segregated, annexed, exchanged or interchanged. As Crary writes on attentiveness, it is ‘not primarily concerned with looking at images but rather with the construction of conditions that individuate, immobilize, and separate subjects, even within a world in which mobility and circulation are ubiquitous’ (1999, p. 74). In this sense, practices of attention are one specific means of instituting the dividing practices at the heart of contemporary techniques of government.<sup>3</sup> In short, while contemporary practices in no way substitute for past practices of division and enumeration, they do classify in novel and more finite ways that are worthy of critical attention.

As the contemporary global economy has sought to incorporate practices of attention, perception and affective judgement ever more closely into circuits of production and consumption – promoting touch-button ‘interactivity’, placing the screen in the palm of the hand, engaging playfully with the consumer – so, at the same time the state’s security practices have sought to mobilize culture broadly defined – ways of life, looking out for the out of the ordinary, sifting the patterns of life left in transit or consumer transactions, providing hotlines for people’s reported unease or suspicion. Thus, London Metropolitan police’s ‘if you suspect it’ campaigns offer the transaction receipt as one fragment of a picture of a person that could be built; the mobile phone images and video clips from the 2005 London bombings are translated from ‘careless cinema’ into the data-driven analysis of actionable intelligence (Sinclair 2005); the flotsam residue of our travel bookings on global reservations databases are extradited to the US authorities.<sup>4</sup> Across these apparently disparate domains there is a resonance in ever more finite targeting of behaviours, conduct, the actions and inferred intentions of people. Someone as yet unknown is apparently identified and made visible, literally ‘brought to attention’, singled out and immobilized while all around him moves on.

Though the emergence of novel forms of attentiveness stretches across a spectrum of practices – from appeals to citizen ‘readiness’ and states of alert (Isin 2004, Hay and Andrejevic 2006), to the algorithmic calculations made on the screens of counter-terror ‘hotlines’, and the vast screening of prosaic daily transactions for the ever-attentive ‘watch list’ – there are a number of points of resonance that enter all of these different modes of attention.

Contemporary forms of attentiveness are predominantly *screened* ways of perceiving and attending to the world. The interface of the screen – whether windscreen, mobile phone or PDA screen, computer screen, or security ‘pre-screening’ – has become an important site where sovereign decisions (who belongs to the nation, who is dangerous to ‘us’, what the ‘other’ looks like) are made. ‘The screen’, writes Kaja Silverman, ‘is the site at which social and historical difference enters the field of vision’ (1996, p. 135). It is not only that the screen becomes the mode of visual communication of difference, though of course this is important. Instead, the screen itself enters into the constitution and performance of difference. So, when the British government rejects the US move to deny visas to Britons of Pakistani ‘origin’, but accepts instead ‘screening at their end, sharing intelligence with the Americans’ and ‘deporting Britons who failed screening once they arrived at an airport in the US’ (New York Times 2007), they defer a decision based on racial categories into a screened calculation based on ever more finite classifications of difference. Put simply, the screen assists in the appearance of a neutral and depoliticized form of calculation. The computer screen, understood this way, as Anne Friedberg has shown, ‘is both a “page” and a “window”, at once opaque and transparent’. The flat surface

of the screen, the ‘page’ that represents the calculation in this instance, is given the appearance of depth by the layers and leaves of data, the multiple other screens and screenings that may appear transparent to the viewer but remain opaque to the person who is displayed there. The surface of the screen has, then ‘a deep virtual reach to archives and databases, indexed and accessible with barely the stroke of a finger’ (Friedberg 2007, p. 19).

The screened forms of attention that are dominating contemporary homeland security practice function through a process of ‘screening out’. That is to say, they take large quantities of data, multiple sources of stimuli, and they sort and classify that which will appear on the surface. Inside the 34 ‘surface’ items of airline passenger data in passenger name records, for example, are multiple layers of pieces of a person’s life, integrated together via pre-screening programmes such as USVISIT, to produce a picture of a person’s posed risk to security. It is, of course, only pixelated fragments that enter the visualization; vast quantities of data simultaneously fall out of the calculation, become ‘background noise’ and are screened out. In many ways this focusing of attention via the annulment of other sensory data is integral to the histories of practices of perception:

Whether it is how we behave in front of the luminous screen of a computer or how we experience a performance in an opera house, how we accomplish certain productive or creative tasks or how we more passively perform routine activities like driving a car or watching television, we are in a dimension of contemporary experience that requires that we effectively cancel out or exclude from consciousness much of our immediate environment. (Crary 1999, p. 1)

For Crary, the way that we have come to focus our attention on particular items, tasks or people cannot be understood without also acknowledging the processes that cancel out or exclude other stimuli. When we attend to one set of sensory data, in order to make it count we necessarily discount other sources. Crary identifies a critical turning point in the mid nineteenth century, when scientific knowledge about how an embodied observer sees and perceives the world ‘disclosed possible ways that vision was open to procedures of normalization’ (1999, p. 12). It is precisely this normalization within practices of attention that is at work in the visibility of homeland security. When the call is to look for that which is abnormal, out of the ordinary, or when the data on an individual is sorted according to patterns of normality and deviation, most of the detail behind the data is cancelled out. Conduct and behaviour that could, if attended to or seen differently, be an integral part of the ‘norm’, becomes part of the conduct and behaviour designated deviant from norm and rendered suspicious. Thus, what might be expected to be ‘normal’ patterns of travel or financial transactions for a British citizen with family in Pakistan – travel to visit relatives, wire transfers of monetary gifts, telephone calls – will, within the screened attentiveness to passenger data, be designated suspicious. Like Richard Flanagan’s protagonist, ‘the Doll’, in his novel *The unknown terrorist*, whose careful earnings from lapdancing are hidden in her apartment – savings to buy a house, to find the security and prosperity that is promised to the prudent citizen – what would be the norm becomes deviant, the cash becomes evidence of ‘a cell financing its activities through drug running and the sex industry’ (2006, p. 231).

### **In close association: attending to difference**

In the immediate aftermath of 9/11, the homeland face of the war on terror identified an enemy whose probable future actions were already visible in the traces of life left in existing data. Giving evidence at a US Congressional hearing only five months after 9/11, IBM’s federal business manager testified that ‘in this war, our enemies are hiding in open and available information across a spectrum of databases’ (Intelligent Enterprise 2002, p. 8). Technology consultants and IT providers such as IBM have made the generation of probabilistic association

rules the forefront of homeland security practices. The idea is that locating regularities in large and disparate patterns of data can enable associations to be established between apparently ‘suspicious’ people, places, financial transactions, cargo shipments and so on (Ericson 2007). Rules of association are produced by algorithms – models or ‘decision trees’ for a calculation (Quinlan 1986). In effect, algorithms precisely function as a means of directing and disciplining attention, focusing on specific points and cancelling out all other data, appearing to make it possible to translate *probable* associations between people or objects into *actionable* security decisions. In 2003, for example, a US joint inquiry concluded that ‘on September 11, enough relevant data was resident in existing databases’, so that ‘had the dots been connected’, the events could have been ‘exposed and stopped’ (2003, p. 14). It is precisely this ‘connecting of dots’ that is the work of the algorithm. By connecting the dots of probabilistic associations, the algorithm becomes a means of foreseeing or anticipating a course of events yet to take place:

If we learned anything from September 11 2001, it is that we need to be better at *connecting the dots* of terrorist-related information. After September 11, we used credit card and telephone records to identify those linked with the hijackers. But wouldn’t it be better to identify such connections before a hijacker boards a plane? (Chertoff 2006)

The algorithm appears to make possible the conversion of ex post facto evidence in the war on terror into a judgement made in advance of the event. The significant point here is that diverse data points or specified ‘pixels’ in a digital image are drawn together in association, producing a recognizable whole. Though the visualized image may bear no resemblance to the actual way of life of the person depicted, this scarcely matters because the digital alter ego becomes the de facto person. As the US Inspector General concluded in his survey of government applications of algorithmic techniques, ‘association does not imply a direct causal connection’, but instead it ‘uncovers, interprets and displays relationships between persons, places and events’ (Department of Homeland Security 2004, p. 10). It is the specific visualization of threat, then, that marks out the algorithm as a distinctive mode of calculation – to be displayed on the screens of border guards, stored on subway travel cards, shared between multiple public and private agencies. In this sense, the algorithm produces a screened visualization of suspicion, on the basis of which ‘other’ people are intercepted, detained, stopped and searched.

The origins of algorithmic techniques for visualizing people lie, perhaps not surprisingly, in commercial techniques for imagining the consumer. In the early 1990s IBM mathematicians began to work on using barcode data on consumer purchases to project probabilistic judgements about the ways of life of the customer in a given scenario (cf. Agrawal *et al.* 1993). The point here was not to be able to *predict* future patterns on the basis of past data, indeed the commercial clients categorically did not want predictability or to capture an already predictable customer. Instead, the dream was to visualize the impulse buyer, the capricious lifestyle of the unknown consumer who might be drawn into the targeting of the marketeers. Though the uncertainties of future patterns are not treated as strictly knowable, they are seen to be at least amenable to pre-emptive decision making based on the visualized person.

It is precisely this model of pre-emptive visualization of an unknown person that is now running through the logics of homeland security, indeed IBM’s same team is now leading the ‘mathematical sciences role in homeland security’ (BMSA 2004), with IBM prominent contractors on Heathrow airport’s *MySense* biometrics programme and on the trials for the UK’s e-borders *Semaphore* and *Iris* programmes (DHS 2006). Though programmes of this kind have attracted attention for their surveillant nature, with the implications for privacy and civil liberties this holds, I want to suggest that they are not primarily surveillant modes of seeing. Rather than strictly technologies that ‘watch’, taking a metaphorical snapshot or photograph in a specific spatio-temporal context, these are techniques of visualization. They project an image and they

project it forward in time, displaying their mobility on the ubiquitous screen. As Friedrich Kittler has argued compellingly, projections are produced from fragments of visual data, from individually isolated characteristics that are then selected, differentiated and reintegrated into a visual whole (1997). Of course, gaps persist between the lines that join the pixelated dots. These gaps, though, are filled with mobile and projected images that produce a seamless whole. Describing the illusion of a moving picture that is produced in the cinematic process of projecting still frames, Anne Friedberg suggests 'for motion to be reconstituted, its virtual rendition relies on a missing element, a perceptual process that depends on the darkness between the frames' (2007, p. 92; see also Friedberg 2002). To state my argument simply here, a visualized image of a person requires some gaps and invisibilities, these are simply filled in by the observer. The projected image, then, is extraordinarily difficult to challenge or expose – as Richard Flanigan's 'Doll' discovers, when the fragments of her life are reintegrated to project an unrecognizable whole, 'she becomes what she is not'.

It is important at this point to emphasize the ambiguity of practices of attention and attentiveness. It is not the case that these are wholly disciplinary practices that act on and through us and our lives. As Crary has argued, though industrialization and the market economy saw 'perception function in a way that insures a subject is productive, manageable, and predictable, able to be socially integrated and adaptive', simultaneously the management of attention reached limits characterized by more 'creative states of deep absorption and daydreaming' (1999, pp. 4–5). So, whilst the conduct of commerce and trade required particular attentive habits, it stimulated also the more creative and subjective ways of seeing that flourished in the arts (1999, p. 52).

Arguably, in terms of attentiveness and the visualization of people, something interesting and politically challenging is also happening at the intersection of these 'productive' and 'creative' domains of attention. There can be little doubt that projected futures are experienced as both dangers and desires. As media theorist Jordan Crandall has argued:

Being-seen is an ontological necessity; we strive to be accounted for within the dominant representational matrices of our time. We are not only talking about a gaze that is intrusive and controlling. We are talking about a gaze that provides the condition for action – the gaze for which one acts. (2005, p. 20)

Consider, for example, the luxury fashion brand *Prada* and, specifically, the architectures of their New York flagship store. The glass walled building, stretching one block and opening up inside with spaces to walk around, see and be seen, the store replaces displays of visible products with technologies that connect the consumer's sense of identity to future *Prada* projections of the person. The radio frequency identification (RFID) tags inside the clothing send radio signals to a screen in the fitting rooms, triggering images of the clothing as seen on the catwalk. The glass walls of the dressing room change in phases from transparent to opaque, and large video screens 'replace mirrors to show your back and side views live' (Kang and Cuff 2005, p. 121). The miniaturized sensor technologies embedded in the clothing and in store cards and credit cards provide focal points to be connected together in the visualization of the consumer. As these same RFID technologies are now inserted into passports and immigration documents, providing a route of identification into a visualized person, we see both commercial and security drives to become attentive to the element of surprise, the unpredictable or impulsive act.

In this sense, algorithmic techniques for making visible mobile people, and indeed products, goods and money, embody what Samuel Weber calls a 'target of opportunity', a competitive 'seizing' of 'targets that were not foreseen or planned' (2005, p. 4). The targets of opportunity in the war on terror, then, involve the depiction of unknown and mobile enemies:

However different the war on terror was going to be from traditional wars, with their relatively well-defined enemies, it would still involve one of the basic mechanisms of traditional hunting and

combat, in however modified and modernized a form: namely ‘targeting’. The enemy would have to be *identified* and *localized*, *named* and *depicted*, in order to be made into an accessible target . . . None of this was, per se, entirely new. What *was*, however, was the mobility, indeterminate structure, and unpredictability of the spatio-temporal *medium* in which such targets had to be sited . . . In theatres of conflict that had become highly mobile and changeable, ‘targets’ and ‘opportunity’ were linked as never before. (Weber 2005, pp. 3–4, emphasis in original)

Samuel Weber’s key point of discussion is the theatre of war, though his argument sheds significant light on the modes of attentiveness that I depict here. The *identification*, *localization*, *naming* and *depiction* of mobile targets is, in this war by other means, conducted in and through daily life, in advance of any possible future strike or intervention. The targeting of unknown people is, put simply, becoming a matter of both positioning in the sights (targeting and identifying) and visualizing through a projected line of sight (pre-empting, making actionable). Just as *Prada*’s customers are targeted via electronic tag identifiers and visualized via screened future images of their clothing, so the migrant or traveller is both targeted and anticipated – identified via their personal data and projected forward so that their digital shadow arrives at the border before they do. Algorithmic ‘decision trees’ draw even the most overloaded sensory domains into apparent management: the busy and noisy border crossing is stilled on the border guard’s screened list of ‘selectees’ to single out for further attention; the crowded subway ticket hall quietly selects anomalous smartcard data and intercepts at the barrier; the RFID data from a football fan’s swipecard transmit an automatic signal to the local police. From the visualization of a person is derived the possibility to act on that person. ‘Ideally, I would like to know’, said Michael Chertoff, ‘did Mohamed Atta get his ticket paid on the same credit card. That would be a huge thing. And I really would like to know that in advance, because that would allow us to identify an unknown terrorist’ (New York Times 2006b).

In fact, of course, the algorithmic ‘decision trees’ do not take decisions at all, they merely defer decision into a calculation that is pre-programmed.<sup>5</sup> While they appear to visualize a picture of a person that is culturally nuanced – every minute and prosaic ‘behaviour’, every aspect of a way of life potentially becoming a part of the classification – they actually efface difference in their drive for identification. The logic of association rules appears to be peculiarly dependent on culture, yet it is a representation of culture that attends too (and makes us attentive to) some aspects of sameness and difference, whilst always failing to confront the agonistic difference at the heart of political life (Connolly 1991, pp. 170–171). The claims that visualizations used in place of ‘face-to-face’ pictures avoid racial profiling and other prejudicial judgements cannot be upheld. It is always through the visualization of the identity of the ‘other’ that the sanctity of ‘we the nation’, ‘we the people’ is sustained. As Connolly puts it, the ‘self reassurance of identity’ is made ‘through the construction and otherness’ and this otherness is readily adopted as the ‘definition of difference’ (1991, p. 9). The algorithmic attentiveness, then, becomes the ‘multicultural’<sup>6</sup> society’s technology of choice precisely because it gives the appearance of living ethically and responsibly alongside difference, of deciding without prejudice – ‘we are interested in behaviour not background’; ‘this is not racial profiling’; ‘we prefer screening to visa restrictions’; ‘no more border guards taking decisions based on appearance’ – when in fact it categorizes, isolates and annexes in ways that conceal the violence inside the glossy wrapper of techno-science.

There is an intensely important political problem here, then. We are faced with a technique of governing that advances an ethics of more responsible security, but which actually makes humane, responsible or ethical ways of paying attention to the world extraordinarily difficult. Consider, for example, Waverly Cousin, former police officer and one of the 43,000 ‘screeners’ employed by the US Transportation Security Administration to deploy the ‘screening passengers by observation technique’ (SPOT) at airports, ports and border crossings. ‘The observation of



human behaviour is probably the hardest thing to defeat', explains Waverley; 'you just don't know what I am going to see' (New York Times 2006a). We do not know what he is going to see because the 'SPOT' calculation, while it engages all of the time in the visualization of what Dana Cuff (2003) calls an 'object of interest', is itself always invisible and never an object of interest. Because in algorithmic modes of attention every ordinary everyday act becomes itself a means of settling out the norm and identifying the other that is anomalous, a responsible decision that, in Derrida's (1994) terms, 'advances where it cannot see', is particularly elusive. What becomes important politically, I want to suggest in my concluding section, is the capacity precisely to intervene in what we do not know in what we see, and to mobilize a different form of attentiveness that is perhaps always already co-present.

### Attention in a state of distraction: what the artist saw

I have argued that theories of attention and attentiveness derived from histories of art are capable of revealing something significant about the contemporary economy of homeland security culture: that it is not primarily a way of seeing or surveilling the world, but rather a means of dividing, isolating, annexing in order to visualize what is 'unknown'. Yet, it is not only in concepts from the arts, but also in some specific *practices of artistic intervention* that we find a potentially valuable ethics and responsibility in how we pay attention to ourselves and other people. An 'absorbed attentiveness', writes Crary, is not only a 'necessary part of the individual's functioning within a modern world of economic facts and quantities', but is always also essential for the 'creative exceeding of the limits of individuality' (1999, p. 53). Because relations of power inextricably contain the possibility of resistance, there could never be a fully efficient attentive subject whose attention to the world is entirely amenable to management. Indeed, as Crary has it, 'the more one investigated, the more attention was shown to contain within itself the condition for its own undoing' (1999, pp. 45–46).

Art theory and practice is all too readily overlooked as 'merely cultural' by the social sciences, accused of 'substituting a trivial form of politics' that focuses on 'transient events, practices and objects' in place of a 'serious' political economy of transformation (Butler 1998). I want to suggest here that, even for those who wish to pursue what they see as 'serious' political economies of transformation – and I consider questions of culture to be among the most serious – artistic interventions in theory and practice are potentially well placed to reflect on many aspects of an emergent economy of culture. The embedding of technologies into everyday objects; the visualization of unknown futures; the screened projection of mobile bodies; the economies of the mundane and the surprising in public space: these are not novel ideas to many contemporary artists. Indeed, far from focusing on trivial and transient events, innovative artistic practice engages in a deeply historical process of reflection on perspective, human subjectivity, and cognition. Put simply, the 'resonances' (Connolly 2005) that so many of our contemporary philosophers, social theorists and political economists are observing across science, technology, politics and culture, have long been at the heart of leading edge artistic interventions. Of course, it is not the case that artistic practice is inherently critical and, indeed, the practices of visual culture have done much to institute the vigilant regimes of modern liberal governance. I will focus here, though, on three areas where I consider artists' interventions to open up clear space for questions of ethical and political responsibility in face of technical depoliticization.

Modes of attentiveness in contemporary homeland security practice, as I have argued, are particularly dependent on algorithmic logics that designate anomaly on the basis of a screening of the norm. The cultural practices of the visual arts potentially invert the logic of 'looking out for the out of the ordinary' – that which transgresses the norm – in order to identify danger, suggesting

instead that the act of being surprised by the extraordinary can make us see the norm anew. Even in quite mainstream installations of temporary artworks in public spaces, there is an emphasis on surprise as a means of seeing daily life differently. In the spaces of the London Underground, for example, Platform for Art has confronted, to a degree, the post 7/7 fear of the unexpected, inviting international artists to install their work on the Piccadilly line stations, platforms and trains. In the *Thin Cities* project, the artist's installations were produced in 'unexpected places on the Tube network', offering new ways of seeing the daily commute, 'revealing new perspectives on London' and 'promoting greater understanding' (Platform for Art 2006).

In this sense, artistic interventions have capacity to call the norm into question, reminding us of what we do not pay attention to, creating what Tom Mitchell says 'looks like a picture of something we could never see' (2005, p. 260). This is, argues Crary, 'experimental activity' that 'involves the creation of unanticipated spaces and environments in which our visual and intellectual habits are challenged and disrupted' (p. 7). In contrast to an attentiveness that tries to anticipate on the basis of the fragments that are seen, then, some installation artwork in public space offers us new ways of attending to the very images we had already screened out as normal. American artist Rozalinda Borcila's *Geography lessons*, for example, seeks to 'intervene in apparently controlled spaces' that are 'policed through technologies of visualization and information management' (Borcila 2006). Making 'counter surveillance' videos of airport security and urban transport systems (and deported from the Netherlands when she video recorded Schipol airport's security), Borcila projects her multiple screen films, rendering extraordinary what has become the ordinary practice of searching, removing shoes, interrogating, detaining (see Figure 1).

The question of responsibility in attentive practices of security arises only in terms of the responsibility for vigilance, for paying attention and not becoming distracted. As I have argued, and following Derrida, there is an absence of responsibility in the sense that these forms of attentiveness seek to anticipate, to foresee an unknown future on the basis of an algorithmic calculation. If Derrida is correct, then a responsible decision would have to 'advance where it cannot see', confronting the difficulty and undecidability of all decisions, and recognizing that calculation cannot substitute for a judgement that may have to be made in the absence of pre-programmed information (1992; see also 2001). Artistic interventions, I want to suggest, embody the potential to confront the political difficulty of decision and to intervene in ways that are 'unanticipatory', advancing where they cannot see.

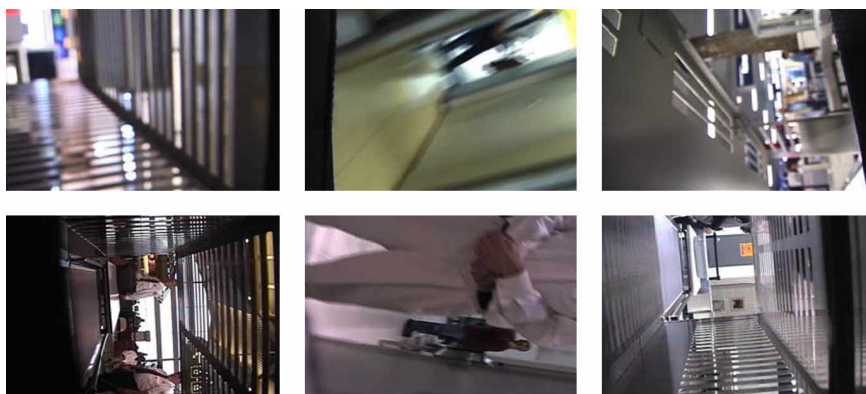


Figure 1. Rozalinda Borcila, stills from 'Geography Lessons: Six Landscape Studies, and Counting' 6-channel video installation.

What is particularly interesting about artistic practices that engage with some of the emergent technologies of attention, is that they do not seek out a *resolution* to the political difficulties posed. Instead, they create a plural space for the articulation of difference, ‘integrating technological tools into plural zones of creative activity’ and providing ways of imaging the problem outside of narratives of security or consumption (Crary 2003, p. 9). By way of example, consider New York artist Meghan Trainor, whose work integrates RFID tags – ubiquitous in the visualization of consumers and security ‘threats’ – into public installations and performances. The installation ‘lets viewers encounter RFID tags in an application outside of its common commercial or surveillance context’, explains Trainor, ‘allowing for different reactions to its current and expanding ubiquity in our lives’ (Meghan Trainor, personal correspondence, 2004). Rather than seek to resolve the paradoxes and contradictions of these technological forms of attentiveness, then, the artworks function ‘as catalyst’ to the exposure of paradox and contradiction (De Oliveira 2003). They remind us that within apparently disciplined and securitized modes of attention there are also interstitial spaces of ‘inattention’, ‘enchantment’ or ‘reverie’ that may work against prejudicial and individualized practices (Bennett 2001). The background images and data that are discarded by security practices of visualization are potentially recovered by the changed perspectives of artistic interventions.

Finally, visionary work in artistic practice has, as its *raison d’être*, a form of critique that runs ‘against the grain’ of dominant knowledge about how we pay attention to the world. In Edward Said’s last book before his death, he documents the ‘late’ work of visionary artists and musicians as not that which has ‘harmony and resolution’, but that which embodies ‘intransigence, difficulty, and unresolved contradiction’ (2006, p. 14). In contrast to a line of sight that sees clearly and rationally, then, art against the grain is that which transgresses prevailing modes of thought in order to see the world differently. Thomas Keenan conjures a comparable alternative ‘line’ of sight against the grain when he speaks of politics ‘on the bias’, where there is ‘a withdrawal of the rules or the knowledge on which we might rely to take our decisions for us’ (1997, p. 166).

In order for responsibility to be reintroduced to the decision, then, it is necessary for us to consider this diagonal line of sight that cuts across prevailing ways of attending to the world. A final example of such a cut across the grain can be seen in British artist Michael Landy’s three year project, *Break down*. Situating his work in a disused department store on London’s Oxford Street, Landy made an inventory of his life – dismantling, weighing and cataloguing every item that he owned. Simulating the breaking up, classifying and profiling of individuals through their data, Landy stripped his pixelated profile down to nothing, publicly displaying the 7000 disassembled objects on a moving production line. Because codified data can be used to visualize a person, no matter how absurd or tenuous, the artists who experiment with alternative ways to visualize a person do so against the grain, offering new modes of attention that attend also to the calculation that is made.

### Conclusion: citizenship and unknown futures

In one reading of the implications of vigilant and anticipatory lines of sight for citizenship, a specific embodiment of the citizen is produced: an attentive, watchful and watched citizen whose actions and transactions in daily life are called up to secure the homeland security state. It is perhaps for this reason that so much attention has been paid in recent times, across the social sciences, to the surveillant practices of an apparently ‘post 9/11 world’. And yet, as Foucault warned in his lectures on the emerging security apparatus, the panopticon is ‘completely archaic’, and ‘the oldest dream of the oldest sovereign’ (2007, p. 66). In contrast to the ‘exhaustive surveillance of individuals’, a ‘discipline’ that ‘concentrates, focuses and encloses’, Foucault observes an ‘apparatus of security’ that ‘opens up’ to ‘let things happen’ (2007, pp. 44–45).

Where disciplinary modes of surveillance produce particular pictures of people, drawn from the ‘survey’ in the conventional sense of ‘surveiller’, what I have depicted in this article is a projected picture of a person – one that pre-empts, visualizes and anticipates unknown futures. The citizen appears, then, not only as a *surveilled* picture of a way of life to be verified, checked against criteria and documentation, authenticated, but also and perhaps more importantly, as a *visualization of a potential person* who is never quite seen. In terms of material effects, the projected people who find themselves on selectee lists for secondary checks, or on no-fly lists, or with their assets frozen, are left confronting a digitized doppelganger whose associations and profile have become more ‘real’ than even the conventions of passport or visa can attain.

There can be little doubt, at least in my sense of the emerging landscape, that much of contemporary security practice is assembling around a line of sight that conceals racialized and prejudicial judgements inside an apparently ‘expert’ and techno-scientific visualization. Indeed, as I have suggested, the processes of screening and projection precisely rely upon the gaps that are ‘left out’ of association analysis. We might even say that misidentification, so-called ‘false positives’ and false hits have become essential parts of the accidents that make citizenship and the denial of citizenship possible (Nyers 2006). For the British citizens ‘of Pakistani origin’ who find themselves projected as as-yet-unknown terrorists, their visualization is achieved only via the constant and consistent screening out of other identity claims they could make. It is for this reason that I find artistic interventions particularly interesting in terms of recovering what is screened out, retrieving the lived detail and rendering it visible. One possible step to take in the political and ethical interventions in security visualizations, I have argued, is to expose the distractions and inattentiveness that make vigilant and anticipatory visualities possible.

### Acknowledgements

The author acknowledges the UK Economic and Social Research Council (ESRC) funding of award RES 155 25 0087, ‘Contested Borders: Non-Governmental Public Action and the Technologies of the War on Terror’. Performance artists Rozalinda Borcila and Meghan Trainor have been much valued collaborators and have given generously of their time and images. The article has benefited greatly from the comments of the two anonymous reviewers

### Notes

1. In May 2006 the European Court of Justice ruled that the EU–US agreement on the sharing of airline passenger data be annulled (Guild and Brouwer 2006). The Passenger Name Record (PNR) agreement of 2004 required that airlines submit 34 items of data on each passenger (including, for example, credit card details, past travel data and in-flight meal choices, car hire, hotel bookings and other personal information) within 15 minutes of flight departure for the US. The PNR data has become central to pre-emptive border controls, where risk ratings are assigned to individuals in advance of their arrival at a border (Amoore 2006).
2. In a speech to the NATO in 2002, Donald Rumsfeld pondered the importance of taking decisions on the basis of an absence of evidence, of taking into account the ‘unknown unknowns’:

The message is that there are no ‘knowns’. There are things we know that we know. There are known unknowns. That is to say there are things we know that we don’t know. But there are also unknown unknowns. There are things we don’t know we don’t know [...] There is another way to phrase that and that is the absence of evidence is not evidence of absence.

Hence, the sense that attention is to be paid to that which is not seen, has not been seen, but can nonetheless be ‘projected’.

3. In common with others who have sought to push economy ‘beyond economism’ – that is, beyond *the* economy as a pre-discursive, pre-political and self-evident material reality – economy is used here to denote a field of intervention and a specific means of rendering political life governable (Miller and Rose 1990, de Goede 2003, 2005). ‘The art of government’, writes Foucault, ‘is essentially concerned

with answering the question of how to introduce economy – that is to say, the correct manner of managing individuals, goods and wealth within the family – how to introduce this ... into the management of the state’ (1991, p. 92). Foucault finds in economy a continuity of the art of governing the state, such that the ‘very essence of government’ has come to mean ‘the art of exercising power in the form of economy’ (p. 93).

4. Reservations databases Amadeus, Galileo and Sabre, used by the major airlines and hotel and other travel groups, are now the conduit for the routine submission of passenger data to the US authorities before a flight departs for the US.
5. For Jacques Derrida, a decision is not a decision if it simply redeploys calculative practices in order to decide. A decision cannot, in Derrida’s reading, be determined by the acquisition of knowledge, for then it is not a decision but ‘simply the application of a body of knowledge of, at the very least, a rule or norm’ (1994, p. 37). An apparent decision taken on the basis of what is ‘seen’ evidentially, via the calculations of experts, or in the screened results of algorithmic visualization, is not a decision at all. ‘The decision, if there is to be one’, writes Derrida, ‘must advance towards a future which is not known, which cannot be anticipated’ (1994, p. 37).
6. As Slavoj Žižek has it: ‘multiculturalism is a disavowed, inverted, self-referential form of racism, a “racism with a distance” – it respects the Other’s identity, conceiving of the Other as a self-enclosed “authentic” community towards which he, the multiculturalist, maintains a distance rendered possible by his privileged universal position’ (2006, p. 171). Thus, the decision based on a visualized calculation is precisely a self-referential form of racism, a racism that disavows itself by stripping out its own role in identifying the Other that is threatening and dangerous.

## References

- Agrawal, R., Imielinski, T. and Swami, A., 1993. Mining association rules between sets of items in large databases. *SIGMOD proceedings*, 6, 914–925.
- Amoore, L., 2006. Biometric borders: governing mobilities in the war on terror. *Political geography*, 25 (3), 336–351.
- Amoore, L., 2007. Vigilant visualities: the watchful politics of the war on terror. *Security dialogue*, 38 (2), 139–156.
- Amoore, L. and de Goede, M., 2005. Governance, risk and dataveillance in the war on terror. *Crime, law and social change*, 43 (2), 149–173.
- Amoore, L. and de Goede, M., 2008. Introduction: governing by risk in the war on terror. In: L. Amoore and M. de Goede, eds. *Risk and the war on terror*. London: Routledge.
- Bennett, J., 2001. *The enchantment of modern life: attachments, crossings, ethics*. Princeton, NJ: PUP.
- BMSA, 2004. *The mathematical sciences’ role in the war on terror*. Washington DC: National Academies Press.
- Borcila, R., 2006. *Geography lessons* [online]. Videos available from: [www.borcila.tk/geographie/index.html](http://www.borcila.tk/geographie/index.html) [Accessed April 2007].
- Butler, J., 1998. Merely cultural. *New left review*, 227 (January/February), 33–44.
- Chertoff, M., 2006. A tool we need to stop the next airliner plot. *Washington Post*, 29 August, p. A15.
- Chertoff, M., 2007a. Remarks by Secretary Michael Chertoff to the Johns Hopkins University Paul H. Nitze School of Advanced International Studies [online]. 3 May. Available from: [www.dhs.gov/xnews/speeches/sp\\_1178288606838.shtm](http://www.dhs.gov/xnews/speeches/sp_1178288606838.shtm) [Accessed May 2007].
- Chertoff, M., 2007b. Speech delivered to the Committee on Justice, Civil Liberties and Home Affairs, European Parliament, 15 May. Full speech available from: [http://www.dhs.gov/xnews/speeches/sp\\_1180627041914.shtm](http://www.dhs.gov/xnews/speeches/sp_1180627041914.shtm).
- Connolly, W., 1991. *Identity/difference: democratic negotiations of political paradox*. Minneapolis: University of Minnesota Press.
- Crandall, J., 2005. Envisioning the homefront: militarization, tracking and security culture. *Journal of visual culture*, 4 (1), 17–38.
- Crary, J., 1992. *Techniques of the observer: on vision and modernity in the 19<sup>th</sup> century*. Cambridge, MA: MIT.
- Crary, J., 1999. *Suspensions of perception: attention, spectacle, and modern culture*. Cambridge, MA: MIT Press.
- Crary, J., 2003. Foreword. In: N. De Oliveira, N. Oxley and M. Perry, eds. *Installation art in the new millennium: the empire of the senses*. London: Thames and Hudson.

- Cuff, D., 2003. Immanent domain: pervasive computing and the public realm. *Journal of architectural education*, 42 (1), 43–49.
- De Goede, M., 2003. Beyond economism in international political economy. *Review of international studies*, 29 (1), 79–97.
- De Goede, M., 2005. *Virtue, fortune and faith: a genealogy of finance*. Minneapolis: University of Minnesota Press.
- De Oliveira, N., ed., 2003. *Installation art in the new millennium: the empire of the senses*. London: Thames and Hudson.
- Department of Homeland Security, 2004. Testimony of Secretary Tom Ridge before the Senate Budget Committee, 25 February. Washington, DC, US Senate.
- Derrida, J., 1992. Force of law: the 'mystical foundations of authority'. In: D. Cornell, M. Rosenfeld and D.G. Carlson, eds. *Deconstruction and the possibility of justice*. London: Routledge, 3–67.
- Derrida, J., 1994. In conversation with Richard Beardsworth. Nietzsche and the machine. *Journal of Nietzsche studies*, 7, 7–65.
- Derrida, J., 2001. *On cosmopolitanism and forgiveness*. London: Routledge.
- DHS, 2006. *Survey of DHS data mining activities*. Washington, DC: Office of the Inspector General.
- Ericson, R., 2007. *Crime in an insecure world*. Cambridge: Polity.
- Flanagan, R., 2006. *The unknown terrorist*. London: Atlantic Books.
- Foucault, M., 1991. Governmentality. In: G. Burchell and C. Gordon, P. Miller, eds. *The Foucault effect: studies in governmentality*. Chicago: Chicago University Press, 87–104.
- Friedberg, A., 2002. Urban mobility and cinematic visuality. *Journal of visual culture*, 1 (2), 183–204.
- Friedberg, A., 2007. *The virtual window: from Alberti to Microsoft*. Cambridge, MA: MIT Press.
- Gregory, D., 2004. *The colonial present*. Oxford: Blackwell.
- Guild, E. and Brouwer, E., 2006. The political life of data: the ECJ decision on the PNR agreement between the EU and the US. CEPS policy brief 109 [online]. Available from: <http://www.libertysecurity.org/IMG/pdf/1363.pdf>
- Hay, J. and Andrejevic, M., 2006. Toward an analytics of governmental experiments in these times: Homeland Security as social security. *Cultural studies*, 20 (4–5), 331–348.
- Intelligent Enterprise, 2002. For want of a nail. *Intelligent Enterprise*, 5 (7), 8.
- Isin, E., 2004. The neurotic citizen. *Citizenship studies*, 8 (3), 217–235.
- Kang, J. and Cuff, D., 2005. *Pervasive computing: embedding the public sphere*. Public Law Research Paper Series no. 04-23. Los Angeles: University of California.
- Keenan, T., 1997. *Fables of responsibility: aberrations and predicaments in ethics and politics*. Stanford, CA: Stanford University Press.
- Kittler, F., 1997. *Literature, media, information systems: essays*. Amsterdam: Arts Limited.
- Miller, P. and Rose, N., 1990. Governing economic life. *Economy & society*, 19 (1), 1–31.
- Mitchell, W.J.T., 2005. There are no visual media. *Journal of visual culture*, 4 (2), 257–266.
- New Scientist, 2003. Smart software linked to CCTV can spot dubious behaviour. *New scientist*, 11 July.
- New York Times, 2006a. Faces too, are searched at US airports. *New York Times*, 17 August, p. 8.
- New York Times, 2006b. Officials seek broader access to airline data. *New York Times*, 23 August, p. 3.
- New York Times, 2007. US seeks closing of visa loophole for Britons. *New York Times*, 2 May, p. 5.
- Nyers, P., 2006. The accidental citizen: acts of sovereignty and (un)making citizenship. *Economy & society*, 35 (1), 22–41.
- Platform for Art, 2006. *Thin cities: 100 years of the Piccadilly Line*. London: Platform for Art.
- Quinlan, J.R., 1986. Induction of decision trees. *Machine learning*, 1, 81–106.
- Rumsfeld, D., 2002. Press conference by US Secretary of Defence Donald Rumsfeld [online]. NATO, Brussels, 6–7 June. Available from: <http://www.nato.int/docu/speech/2002/s020606g.htm> [Accessed April 2007].
- Said, E., 2006. *On late style: music and literature against the grain*. London: Pantheon.
- Silverman, K., 1996. *The threshold of the visible world*. New York: Routledge.
- Sinclair, I., 2005. The theatre of the city. *The Guardian*, 14 July.
- US Joint Enquiry, 2003. Report of the Joint Inquiry into the terrorist attacks of September 11, 2001. Washington, DC: House Permanent Select Committee on Intelligence (HPSCI) and the Senate Select Committee on Intelligence (SSCI).
- Weber, S., 2005. *Targets of opportunity: on the militarization of thinking*. New York: Fordham University Press.
- Willis, S., 2003. Old Glory. In: F. Lentricchia and S. Hauerwas, eds. *Dissent from the homeland*. Durham: Duke University Press.
- Zizek, S., 2006. *The universal exception*. London: Continuum.