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Decisions at the data border: discretion, discernment and security

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Decisions at the data border: discretion, discernment and security

Abstract

Amidst a widespread turn to data analysis and automated screening in security contexts, the question of how decisions are made at the interface of embodied humans and algorithmic processes becomes pressing. This paper is concerned with the production of security decisions at the data border. It makes two contributions. First, it presents qualitative fieldwork amongst data processors at a European smart border targeting centre and, second, it traces a largely obscured cultural history of discretion as means of reflecting on the politics of contemporary data-led decision-making. Discretion is an important concept in contemporary administrative contexts, referring to a decision about the (non)application of a rule in contexts of public power and authority. Its etymon, discretio, however, referred historically to spiritual and visual discernment, as well as prudence and humility. I present the history of discretion to make two arguments: 1) decision-making at the data border is an uncertain visual practice oriented to seeing and authorising what is there and 2) discretion in contemporary data-led contexts revises the conventional ethical relationship between general and particular that has always been intrinsic to discretion. My overall point is that contemporary debates about judgement in automated security decisions are the most recent manifestation of long-standing tensions between rule and judgement, authorisation and uncertainty.

Introduction

Data analysis appears to solve a key problem of contemporary border security: how best to target risky people while expediting licit flows? Border screening programmes (such as Passenger Name Record systems in Europe and the United States Automated Targeting System) subject passenger data to matching and profiling techniques in order to pre-check and risk score travellers. The turn to data in border security has fuelled interdisciplinary debate about the wider politics of pre-emption and governing by risk (Amoore 2013; Amoore and de Goede 2008) and has also raised concerns about discrimination, privacy and data protection (see, for instance, Korff 2015). A prominent question within the burgeoning literature is how, precisely, decisions about immigration and security are authorised. One response has been to reconsider the work of immigration, customs and border security agents. These agents are understood to exercise considerable discretionary power in the (non)enforcement of law and policy, and their everyday decisions have been widely construed as performing and constituting the contemporary border (Heyman 2009; Makaremi 2010; Pratt 2005; Hall 2012). New technologies, however, are reconfiguring border agents' work. More specifically, when data-led screening and risk profiling at the border appear to automate decisions about who to stop, question, and investigate, there are complex shifts in the enactment and meaning of discretion (see Côté-Boucher 2016; Kalman 2015).

This paper focuses on discretion at the contemporary data border. I am concerned with the way in which algorithmic analyses are transforming 'the decision' in immigration and security controls. I build on recent studies that have described border security as practice (see Côté-Boucher et al 2014), and I also draw from the wider interdisciplinary literature on data and technologies in public life. Key within this wider literature is the idea that algorithms have a growing (but little understood) power in contemporary social, cultural, political and economic life (e.g. Steiner 2012, Ziewitz 2015). Prominent also is the post-human understanding of human activity to be fully entangled with technologies of all kinds, with ramifications for conventional ideas of decision, accountability, even liability. This is particularly important, given the ubiquitous invocation by border security authorities of what Hayles (1999) terms the 'liberal humanist subject' - whose decisions and actions are wholly separable from technological systems. So, for instance, the US Automated Targeting System is defended because (it is claimed) it is a "decision-support tool" that "enables decisions" that are "better informed" but it is still a human who decides (Heyman 2011).

I agree with Aradau and Blanke (2015: 5) when they note a depoliticizing tendency in the authorities' insistence on the strong separation of humans and technologies in the governing of security, and the tendency of critical social science to downplay the "division of labour between humans and computers" (ibid.) in the rise of digital technologies. My approach is one that takes seriously the performative power of technological processes, but which resists re-instating (or making redundant) the human, or resorting to techno-determinism. First, I present qualitative fieldwork among data processors in a European border targeting centre who are responsible for checking automated security matches. My concern is to understand the production of decisions at the smart border: How are subjects of interest identified and eliminated? How are algorithmic processes authorised at the interface of embodied humans and algorithmic processes? What *is* the division of labour at this particular security site?

Second, I seek to gain critical traction on the contemporary politics of data and border security via an expanded consideration of discretion. Discretion is a central concept in law and policy, referring in our times to a decision about the (non)application of a rule in contexts of public power. It combines meanings of authority and freedom to decide (there are also secondary connotations of confidentiality and secrecy). Discretion is, inevitably, bound up with Hayles' liberal humanist subject (1999: 287) – with spaces of apparent freedom and choice in the modern rule-bound bureaucratic administration of law and policy. Discretion, however, has a complex history. Literatures in the humanities and arts collectively document a tangled cultural genealogy in western thought, and it is to this genealogy that I turn. Discretion, it transpires, shares a history with *discernment*. Both have their roots in the Greek term *diakrisis*, and its Latin translation, *discretio*, which originally meant separation or discrimination, as well as judgement (Rich 2007: xxiiv). It is not entirely new to note that discretion and discernment have a common history (see, for instance, Kleinig 1996: 82) and in one sense it is somewhat obvious – their modern meanings clearly

overlap in the idea of exercising good judgement, for instance. What has been underplayed, however, is how *discretio* has historically been a site for exploring ambiguities regarding the human senses, particularly vision, and the difficulty of judging truth in uncertain contexts. Restoring historical depth to the idea of discretion will allow me to argue that contemporary debates about algorithms, judgement and security decisions are not wholly novel. They are, instead, the most recent manifestation of long-standing tensions between rule and judgement, deference and freedom, authorisation and uncertainty.

The discussion proceeds in four parts. First, I briefly outline the 'problem' of discretion, and introduce the data targeting centre where I conducted fieldwork. Second, I present a brief history of discretio spirituum, discernment of spirits, which was for centuries a key problem in Christian theology. Put briefly, discretio (from which our modern discretion comes) referred to the ability to distinguish true and false spiritual visions. However, seeing what is there and authorising the visual were rife with problems. I will indicate how these issues unfolded, became lodged within modern ideas about discretion and describe the implications for contemporary data-led security decisions. Third, I chart the shifting historical relationship between discretio and the rule, drawing on Foucault and Agamben. Modern thought, Daston (2017) argues, tends to "oppose rules to some other elusive desideratum, such as interpretation, judgment, creativity, discretion, or simple common sense", but rules were not always imagined as opposed to discretion. While the contemporary concern with the reach of algorithmic rules is quite specific to our times, the search for a rule through which truth might be discerned is not. Finally, I conclude by demonstrating how the contemporary politics of border targeting can be illuminated by viewing automated processes as a particular resolution to the gap between what we think we see and know – features that have long been part of the history of discretion.

Discretion and the data border

The European smart border targeting centre where my fieldwork took place is an open-plan multi-agency centre including police, immigration and customs staff. It operates 24 hours a day, 365 days of the year. The centre's remit is to screen passenger data from airlines and to alert ports of entry about subjects of interest. I interviewed 25 processors who work with automated systems and the immigration, police and security databases. These systems use algorithms to match travellers to immigration, terrorist and criminal watchlists, using personal identity information from passports and visas (what is known as advance passenger information, API). The interviews I conducted were voluntary and took place during work time within the centre. All interviewees were guaranteed anonymity, and it was a criterion of my fieldwork that the centre's identity was protected. Participant observation was precluded because of the sensitive security context. Interviews were informal and loosely structured, with participants being invited to discuss their experience

of work with the automated systems and of decision making around the matches. The work of the basic level processor as they described it is this: he or she accesses a list of potential watchlist 'hits' generated by the system. The processor must decide whether the passenger *en route* is genuinely a match for the watchlist subject, by referring to visa, passport and other data as necessary. If the hit is verified, the relevant data is checked by a senior colleague and if the passenger is positively identified as a watchlist match, an alert is issued to the frontline authorities.

The watchlist matching is coupled with what processors referred to as rules-based targeting, largely based on Passenger Name Record (PNR) data. The PNR is a commercial dataset generated by the airline industry. It may include credit card and ticketing details, travel agent information, frequent flyer data, email addresses, travel companions and itineraries. Whereas the API matches, put simply, are concerned with identifying *known* suspects before they travel (Is this passenger wanted by the police? Is she on a terrorist watchlist?), rules-based targeting identifies potentially risky subjects not yet known to the authorities. According to the security authorities, PNR contains data from which 'aspects of the passenger's history, conduct and behaviour can be deduced' (House of Lords 2007: 9). New passenger data is run against established risk profiles (e.g. common drug trafficking routes, indicators associated with human trafficking) to reveal new subjects of interest. In these cases, the data processor must similarly verify and refer onwards the automated matches.

For its advocates, data matching and targeting uses incontrovertible digital traces (credit card transactions, travel histories) to target threat rather than potentially discriminatory profiles or subjective judgements based on appearance or background. The apparent objectivity of data as a means of targeting passengers was often noted by the processors:

I think the use of data and watch lists is being used to objectify the decision making process for the very good reason that, certainly from an immigration point of view, decisions which are subjective or arbitrary or capricious or are inconsistent are not something that we should be paying civil servants to take. In a democracy we shouldn't be having officials taking contradictory, capricious, or skewed decisions. So there is a kind of a cross-party desire to objectify the decision making process [and] databases are absolutely ideal (Interview 1)

However, the processors simultaneously saw their 'judgement calls' about matches to be important.

Well, it [targeting] can only be used to support human decisions. I don't think you can say well, I don't like the look of this passenger's travel history just from the data. Why is he flying Nairobi to London, London to Dubai on a regular basis? Why isn't he going Nairobi-Dubai, what's he up to? The guy could say, well I've got very narrow margins, it's cheaper to do it that way. Erm, it [data] can only be used to

support a decision I think, and if you rely on data too much, to the exclusion of the human element, you're going to be in a bit of trouble (Interview 2).

The processors, then, held an ambivalent view of their decision-making. This ambivalence emerged during the interviews, during which many people complained about the centre's strict organisational hierarchies and the protocols surrounding the data. More specifically, processors who had previously worked as frontline immigration or customs officers often noted a lack of discretionary power in their work with the data: "you're not making life and death decisions [here], you're not deciding, do we detain that person, do we refuse them leave to enter?" (Interview 3). As one woman put it:

There would be circumstances [in my previous role], where you could use your own discretion... [There were times when] I've not detained somebody and I gave them the option to go and remove themselves, so to speak. That's a judgement call you make at the time (Interview 4)

In contrast to "life or death" discretionary decisions of conventional border work, processors understood their choices about automated hits to be part of an assemblage of security, where the generation of immigration or security alerts emerged from dispersed decision-making across various technological and human interventions. One of the senior processors told me that junior colleagues "shouldn't actually be taking decisions at all. I think the level of discretion is right for each grade" (Interview 5). Basic-level analysts were supposed to pass potential hits to senior processors for review. The senior processor, in turn, would pass the alert on to the port authorities:

They [frontline authorities] decide whether the information that we've given them warrants further investigation. So, even as a [senior processor], I'm not making a decision, I'm giving somebody else [my] decision for them to make a decision. I'm setting that out to make someone else make a further decision (Interview 6)

What is clear from the interviews is that the data processors' understanding of 'true' discretion – as potentially arbitrary yet necessary, as a choice about the (non)invocation of a rule or law, as an individualised "judgement call" – mirrors almost exactly the conventional account.

Discretion, put simply, is "when an official is empowered to exercise public authority and afforded scope to decide how that authority should be exercised in particular circumstances" (Pratt and Sossin 2009: 301). Discretion refers to the exercise of good judgement, and to the authority of public officials (granted through position and expertise) to (not) apply a rule or policy (Kleinig 1996: 82 LaFave 2006). Discretion is considered inevitable within legal and administrative contexts because the contextual application of legal or policy rules is a "process by which abstraction becomes actuality" (Hawkins 1992: 11). It is the combination of authority and the freedom to interpret that makes discretion "a

political issue, not simply a legal one" (Pratt and Sossin 2009). The large interdisciplinary literature on the subject attests to the idea that it is via the discretionary decisions of public officials (from immigration officers to judges) that any legal or administrative system distributes its burdens and benefits (Gelsthorpe and Padfield 2003: 1; see also Pratt 2005; Lipsky 1980).

Moreover, this literature conventionally posits that (legal or policy) rules and discretion are distinct, negatively-correlated entities (Pratt 2005: 54-5). There are several ideas contained within this 'zero-sum' account. First, that law is the primary instrument of social regulation, with discretion as a residual "space between legal rules" where actors make choices (Pratt 2005: 53). Second, that discretion is exercised by essentially free, rational and autonomous decision-makers, although of course these decision-makers are influenced by many political, economic, social and organisational forces (Hawkins 1993: 15, 38). These pervasive assumptions cast discretion as both a problem and a solution. On one hand, discretion appears subjective and arbitrary – the antithesis of the liberal rule of law – raising concerns about inconsistency and injustice (Pratt 2005: 69-70). On the other hand, discretion is viewed as an ethical and 'humanising' device allowing the abstract rules of law and policy to be justly applied to individual cases (see Sossin 1994).

Discretion has been considered particularly problematic at borders. If "border policing facilitates potent forms of exclusion and generally does so without accountability mechanisms" it is largely because border agents are understood to wield significant discretionary powers (Côté-Boucher 2016: 50). In this sense, the decisions of border agents epitomise discretion as the lawless "space between rules" (Hawkins 1992: 11). Heyman (2009: 367), however, argues that discretion should not be seen as a "formless domain of uncontrolled action but, rather, an analysable domain of patterned actions"; discretion is an important form of "non-action" (Heyman 2009). Moreover, studies of wider law enforcement contexts have demonstrated the multiplicity of "rules" within police work, and how they are selectively deployed (or ignored) to "creatively to accomplish desired outcomes" (Ericson 2007: 394). Studies like these go some way to troubling any binary opposition between rule and discretion. Moreover, recent work has highlighted the way that border technologies are curtailing traditional discretionary practices (Côté-Boucher 2016) but also facilitating their creative reframing (Kalman 2015).

In the discussion that follows, I see discretion as neither the opposite of rule, nor the space where rational individuals exercise judgement already constituted. I follow Pratt (2005), who argues that we should interrogate the idea of discretion as 'law's rival' within the discourse of liberal legality. If, after Foucault, liberalism is a political rationality, a broad historical discourse that "rationalises and systematises specific governmental programmes and policies for the ordering of social life in particular historically specific ways" (Pratt 2005: 15), then liberal legality is a "metanarrative" that construes law in terms of universal principles grounded in reason. The rule of law, in this line of thinking, is one of many intersecting

modes of regulation within the "conduct of conduct" (Foucault 1982). Administrative discretion is a governmental technology that carves out a domain of freedom to accommodate the contradiction between universality and particularity within liberal law (Pratt 2005: 16). Discretion is a means of governing itself, materialising within historically specific discursive formations. The question becomes – and this is important for the subsequent discussion – how do rule and discretion mutually constitute one another within a situated decision, and with what effects?

When some ex-immigration officers at the targeting centre described a lack of discretion in their new work, they were doubtless noting what Côté-Boucher (2016: 64) describes as the "shift in the distribution of decision-making capabilities in border policing" brought by technological change. Nonetheless, all the processors spoke in their interviews about using their intuition, experience and knowledge to eliminate matches or 'enrich' the hits in their everyday work with the data and automated system:

I had one today, Mohammed Ali, born 1990, born the 1/1. But you get loads of Somalians, you see hoards of them 1/1. They're not worried about birthdays, like we do, so they just get categorised by the year. So I had one this morning where it was a Mohammed Ali born 1/1/1990. And the person on the watchlist was Afghan, and the person on the flight to Northern Iraq has the same name and the same birthday. But I knew it wasn't the same person because I knew than an Afghan wouldn't want to go to Northern Iraq, so I discounted it because it was a name like Mohammed, with a DOB – there are literally thousands of them. So I took the decision that it wasn't the same person (Interview 7)

The point here is that the processors' work with the automated matches always involves a specific judgement – and this is discretion. These discretionary judgements, and their relationship to the algorithmic rules through which security and immigration are increasingly being governed, warrant close attention. The application of intuition and knowledge to eliminate or verify a match exceeds the idea of an agent who assumes that "automated decision making systems are infallible" (Korff 2015: 29). My fieldwork also troubles the idea of the sovereign human agent whose decisions are simply enabled by the technologies. In the next section, I develop the idea of discretion as discernment to argue that automated security practice and its discretionary moments are profoundly visual, concerned with seeing what is there, or, more specifically, authorising the visual. These two issues, it transpires, have always historically animated accounts of discretion.

Authorising the visual

The tradition of discretio spirituum

Discretion has several meanings. First, it is the power or authority to decide (in law, for instance), as well as the freedom to decide according to one's will. This sense is separated from a second, the faculty of discernment and discrimination, and, third, the action of discerning or judging¹. The etymon of all of these senses is the Latin discretio. Discretio was the translation of the Greek diakrisis (from diakrino), meaning to separate or distinguish, as well as to settle, decide or judge (Liddell and Scott 1929: 162). The early western Christian use of discretio was influenced by NeoPlatonic ideas about diakrisis as judgement, but it was the specific Biblical use of diakrisis which exerted the most formative influence on the development of discretio as a concept. In Corinthians, St Paul used diakrisis (translated as discretio) to warn about Satan's power to disguise himself as an "angel of light". An angelic apparition, Paul warned, could actually be a visitation from the Devil, and good Christians thus had to separate - to discern - spiritual visions. In other words, post-classical Latin equated discretio with discernment as a spiritual and visual faculty. The subsequent tradition of discretio spirituum (discernment of spirits) elaborated this idea, combining new religious concerns with the much older questions of Greek diakrisis. As Foucault argues, discretio was where these ancient questions were "reinserted, reactivated, and taken up again in Christianity" (2014: 258) in a way that was to have lasting influence over western thought.

In the earliest ascetical Christian writings in the third and fourth centuries, then, discretio cautioned about the discrepancy between truth and appearance, or put differently, the danger than good and evil might appear exactly the same (Copeland and Machielsen 2013: 2-3). Discretio spirituum warned about the terrible power of the devil, but also asserted the visual as a site where divine truth could manifest itself. The visual element of discretio was prominent throughout the medieval period, when the concern was how to authorise the visions that appeared wholly real to the seer, but might be inauthentic. The work of Jean Gerson is emblematic of this era. In 1401, Gerson, then Chancellor of the University of Paris, wrote a famous treatise on spiritual discernment (Anderson 2011). He eschewed "proofs that could be tested by the senses of others" such as miracles or independently verifiable signs (Christian 1981: 192-3). Instead, he placed importance on the seers' virtues, character and emotions, which were interpreted as moral or divine indicators (Christian 1981: 201). Problematically, however, Gerson understood virtues to be in practice indistinguishable from their vices (the virtue of patience could be obstinacy in disguise, for instance). His ultimate argument was that discernment was a matter of faith, not reason, and had to rely on experience and intuition, specifically that of Church authorities (Ossa-Richardson 2013: 236). No rule could ever definitively distinguish truth and falsity.

The medieval *discretio* tradition settled uneasily on moral and affective tests of authenticity, but never questioned the visual manifestation *per se*. In the European Renaissance, however, *discretio spirituum* became part of wider debates about the fallibility of vision. The

¹ These three meanings are distinguished from discreet, and the senses related to being discrete (or separate).

development of linear one-point perspective is generally thought to have established a rational, logical basis for vision that permeated multiple fields of enquiry (Berger 1972; Jay 1994). However, Clark (2007) argues that Renaissance and early modern vision was actually highly insecure. Illness or madness, for instance, could make people see non-existent things, and popular theatrical optical trickery exposed the fallibility of human sight. Discussions about *discretio* reflected this insecurity. If visions, argues Clark (2003: 146-7), "included real appearances with a false content and false appearances that were altogether imaginary" – then they were no longer simply theological puzzles, but "visual puzzles" too (Clark 2003: 146-7). So, as well as featuring prominently in battles between Catholicism and the Protestant reformers in this period, *discretio* was one of many areas – the arts, new optical sciences – where a culturally-grounded visual relativity was invoked (Clark 2007: 228).

By the sixteenth and seventeenth century, the visual problems that had previously been encompassed by the discretio tradition - Can we trust what we see? Who (with reference to what rules) can authorise the visual? - became the problems of an increasingly secular philosophy. Hobbes, for instance, dismissed apparitions as confusion about the nature of appearance or elements of "daemonological religions" (Clark 2007: 221). Descartes, too, was troubled by the deceptiveness of the senses. His elevation of reason as the foundation for judgement and authorising the visual was partly a response to his belief that we cannot trust our senses until the existence of a non-deceiving God has been established. But if reason proves the existence of God, sensory evidence is safeguarded because we can correct errors ourselves (Ossa-Richardson 2013). In short, the new theories of sensation offered by Hobbes, Descartes and others in the early modern period made apparitions the subject of mainstream philosophical accounts of "appearance" (Clark 2007: 222). Discretio spirituum remained a theological issue, as it is today, but the problems of "the reliability of private experience and private judgment" (Ossa-Richardson 2013: 235) became encompassed by new secular ideas. Vision, aided by new technologies and increasingly free of its sacred functions, became the dominant (albeit troubled) sense of the modern (Jay 1994: 45).

Discernment and security: seeing what is there

It is impossible to do justice to the complex *discretio* literature in this context. I offer the summary as a means of making two points. First, the historical view of *discretio* as a visual/spiritual issue problematizes the 'discovery' of discretion in the mid-twentieth century (Walker 1993: 6). To be clear, the issues with which discretion is associated in contemporary times – applying a legal or policy rule in ambiguous contexts – are obviously specific to the modern bureaucratic administration of law and policy. There are no straightforward historical comparisons. I am making the case, however, for the legal and bureaucratic connotation – which in our times has at its centre the judgement of a reasonable liberal subject – to re-admit the wider historical senses from which it emerged.

Diakrisis/discretio historically expressed a choice between alternatives, the ability to distinguish and discern matters (Rich 2007: 11). Discretion as an activity of judgement was and is, in part, a visual problem related to the (literal and metaphorical) difficulty of seeing what is there. Second, discretio as discernment refers to the specific desire, within the ocularcentric history of the west, to authorise visual truth amidst the "specious comings and goings of sensory particulars" (Ossa-Richardson 2013: 256). Put simply, discretio named not a decisive resolution via the judicious (non)application of a rule. Instead, discretio acknowledged the difficult, provisional nature of any decision.

What, then, might we learn by viewing contemporary decisions at the data border in light of this history of discretion? What if border security practice were not construed in terms of automated rules-based risk scoring followed by "rapid and accurate decisions in real time" (SAS Analytics 2015), but as an ambiguous *visual* practice oriented towards an uncertain future? At the border targeting centre, the analysis of data was understood in visual terms:

[I]f you've ever seen a Nigerian passport with a five-year multi-entry visit visa in, it's just been concertina stapled together with all the previous Nigerian passports... Even a trained immigration officer's going to find it really difficult to work out the travel history from passports with countries that stamp in and out, from countries that only stamp in, from countries that only stamp out. You get all the data on the screen and when does somebody with a very good travel history become somebody with a travel history that's really too frequent? Looking at data like that, you will be able at some point to realise, hang on, this guy with a visit visa is spending the majority of time in this country, they're not a visitor at all! (Interview 1)

Getting the "data on the screen", then, offered an augmented view of the passenger that humans would find impossible. The software developers promise precisely this – the collation of "massive amounts of data for a single view of all available relevant information" (SAS Analytics 2015). This single view – exposing a travel history, a 'hit' against indicators with numeric score – is a visualisation of threat attuned to the problem that has haunted the post-9/11 security terrain: the terrorist travelling as an innocuous passenger citizen. The data promises to see what is *really* there, giving an authoritative visualisation of the subject to enable "instant and confident" judgements in situations where "public security and safety needs to be balanced against convenience and cost" (SAS Analytics 2015: 5).

Data analysis in this sense occupies the space between appearance and truth (the space that previous accounts of *discretio* acknowledged openly) by associating digital traces – a credit card transaction, unchecked baggage, a distinctive journey. In this way, the analytics, argue Amoore and Piotukh (2015: 343-4), make data intelligible (and actionable) in a way that fundamentally alters human capacities to make sense of the world. They are *instruments of perception*, shaping what can be "perceived, known and acted upon" (ibid.: 344). So, in the border targeting centre, the visual field of security is narrowed to a particular set of screened

hits, with everything else falling away. This is the troubling point: seeing what is there and authorising the truth of a subject appears to be devolved to the algorithm, with the occlusion of prejudices within "objective" data analysis (Korff 2015).

Against the history of *discretio*, however, we can read the analysis of data is a desire for certainty via the application of an authoritative rule – a desire that is as fierce, and as impossible, as the one embodied in the medieval *discretio* debates. Important here is Amoore and Piotukh's (2015: 361) argument that analytics produce the "imagination of an infallible world". The political difficulty of the decision – its structure and uncertainty – is obscured by a the analytics' promise to make visible "all human propensities" and render tractable the most "turbulent of situations" (ibid.: 361). The responsible decision, in Derrida's (1994: 39-40) terms – one that must advance towards a future "which cannot be anticipated" – is replaced by "the mechanical application of a rule". Algorithmic analysis *authorises the visual* in a way that appears to "resolv[e] through knowledge" (Derrida 1994: 37) the difficulties of discernment and judgement. As the processor described, "[they] shouldn't actually be taking decisions at all" (Interview 5).

Yet a focus on the situated practices of the data border are revealing. Their accounts showed processors understand the requirement for a decision that is "heterogenous to the accumulation of knowledge" (Derrida 1994: 37). Their work is always more than a passive retrieval of an algorithmic calculation about a passenger. Take, for instance, the automated system's glitches. Contrary to the promises of software designers, watchlist matching was beset by data entry and quality issues. The work becomes a "monotonous, very, very boring" (to quote one processor) rectification of the system's flaws:

You get what they call numeric validation - ninety one to a hundred. But ninety one, what they're saying is it's really not a match... It's a bit swekiff, that rating system. A hundred should be a spot on match, but we get that sometimes when it isn't... That's why they need human intervention. Take date of birth 2-0-0-1, two thousand and one, and 2-0-1-1, two thousand and eleven. Yeah, that's on a visa or a date of birth, that would say that's a possible match, because there's only one [element] different. That's how it works, it works by the binary side of it. So there's a lot of crap data in there. Half the time you can look at it and go select, select, bling, bling, because it's all crook. (Interview 8)

For the processors, the 'recognition' of the illegal or suspicious subject via automated analysis is always provisional, despite the claim that the data can see what is really there. So when the processors described a process of 'rooting around' or 'enriching the hit', they were engaged in a *re-visualisation* of the life being approximated by the data, using geopolitical knowledge, for instance, or immigration or customs expertise. Their field of vision was not fully constrained by the algorithmically-generated matches.

You might be looking at a target... and you're looking at the flight manifest and you're looking at Mr Smith, who is a cigarette smuggler and you notice another Mr Smith – is that a family member? Let's just run a check on him. He doesn't have the same travel history as this fellow... actually it's a lot worse! Why isn't this guy on a watchlist? I suppose this is how intelligence-led crime detection takes place. That could be one way of targeting (Interview 3)

The algorithmic identification of the subject via an "accumulation of knowledge" (Derrida 1994: 37) is, for the processors, certainly not an authoritative revealing of risk. Their work, in the language of Derrida, was to uncover the heterogeneity and contingency of a life between the data elements – a different form of discernment. Against the history of *discretio* that I have uncovered, discretion at the data border is not simply the (non)invocation of a rule – whether legal, administrative or social (see Ericson 2007) – and the processors acknowledged this. Rather it is a profoundly visual practice, a kind of discernment, a matter of *seeing what is there*. The aligning of security attention via the rules-bound automation and the discerning eye of the processor are neither wholly separable nor collapsed.

The general and the particular

Discretio and the rule

Historically, the *discretio* literature cautioned against individual decision-making in relation to visions (Ossa-Richardson 2013). Appearances were deceitful and human senses were untrustworthy: the rule was there could be no rule and *deferring judgement was best*. For large swathes of history *discretio* meant almost entirely the opposite to modern-day connotations. When Gerson described *discretio* as the 'daughter of humility', he was emphasising the importance of seeking counsel on all aspects of private revelation (Burrows 1991: 247). This deferral of judgement relates to another strand of the history of *discretio*, one that emphasises the virtue of *moderation* or *prudence*. *Discretio* here referred to the avoidance of excess and also to the ethical relationship between the general and particular. In this section, I lay out this aspect of the history of *discretio*.

The early Christian thinking on *discretio* was developed in texts produced for, and by, monks about the ideals of monastic living. Foucault places great significance on the reinvigoration of ancient philosophical themes by early Christians and its subsequent influence on western subjectivity (2014: 266). He notes (along with many others) the emblematic work of John Cassian (360-435 AD), a founder of western monasticism and widely acknowledged as "the first theoretician of *discretio*" (Dingjan cited in Ragazzi 2014: 110). Cassian believed that evil spirits could appear externally, in visions, but they were also able to enter the body and soul. *Discretio* was vital not only because Satan and God could appear identical in external signs,

but also because there was no absolute way to distinguish *Satan and the subject*. Cassian's *discretio*, then, was an external scepticism and vigilant self-examination.

Foucault is particularly struck by the centrality of obedience and humility to this idea of *discretio*. Novice monks were taught "not to hide with false shame any of the thoughts that gnaw at their heart" but "to obey in everything and hide nothing" (cited in Foucault 2014: 266). The principles of "incessant examination" and "exhaustive confession" could avoid two concurrent dangers: laxity and excessive rigor (Foucault 2014: 290). In this sense, the Christian theme of *discretio*-as-moderation appears to revisit the themes of ancient philosophy. But Cassian's meaning was different, argues Foucault. For the ancients, determining the difference between too much and too little was owed to *logos*: the "reason he has in himself and that is perfectly clear to his own eyes" as long as he is not confused by the passions (Foucault 2014: 294). The ancient philosopher could determine his measure for himself. Cassian, conversely, implies that there is "no natural discretion immanent to man" (ibid.: 294). What was in question in Christian thought was "not the truth of my idea: it is the truth of myself who has an idea" (ibid.: 303). Exercising *discretio* on oneself meant to "decipher the power of illusion and deception" that inhabits me (ibid.: 307). Foucault places this centrally in his history of confession and western subjectivity.

There are two things to emphasise for the purposes of this paper. First, Cassian's discretio was to have a significant influence on the development of western moral thought. In identifying discretio as a virtue of measure, Cassian was responsible for "injecting into the term the very meaning that would later identify the function of prudence" (Ragazzi 2014: 110; Rich 2007: 84-85). So, specifically, St Thomas Aquinas' writings on prudence are known to have been heavily influenced discretio, so that prudence "inherits everything that the masters of the spiritual life had stored in this term" Deman (1947: 407-8, cited in Ragazzi 2014: 144). Second, and more importantly for this paper, the discretio literature describes a shifting relationship between judgement, deference and rule. It is important to remember here that early monastic 'rule' was very different from modern concepts of governing precepts or laws. In early Christianity, rule denoted a moral code, or model, for arranging a whole way of life (Erickson et al 2013: 39). So, in the Rule of St Benedict (480-547), famously, discretio was a quality and virtue of the abbott, who had to display a "fine intuition into his subjects' strengths and weaknesses" (Lienhard 1980: 528). Discernment here was not a visual gift or spiritual judgement, but an "ability to see beyond single rules and practices and comprehend the total effect of an action", and to comprehend the "spirit of the rule rather than the letter" (Lienhard 1980: 521). Benedict argues that the abbot cannot dispense or modify the Rule, but nor "is the rule enough of itself without the Abbott, by reason of its abstract and general character" (Delatte 2000: 454-5).

Agamben (2013) is struck by the significance of this sense of rule. He argues that monks did not submit themselves to a particular set of precepts or the will of the abbott in their communal life. Rather, they had "as their law the willfullness of their own desires" (2013:

12). That is, monastic rules shaped the life of the monks as it was lived, rather than providing external boundaries to life through the imposition of prohibitions. For Agamben, what is at stake in early monasticism was not the enforcement of norms, but how the monk's form of life creates his rules – how rules and life enter into what he calls a zone of indifference. Agamben's overall argument is that the cenobitic project, by shifting the ethical problem from the relation between norm and action to that of a form of life, "calls into question the very dichotomy of rule and life, universal and particularity, necessity and liberty, through which we are used to comprehending ethics" (Agamben 2013: 72). In the context of this paper, what is interesting is how Agamben shows that rule and *discretio* were once not external opposites, but co-constituting. Rule was not an exterior prescription, but an ordering of conduct arising from a lived well in *discretio*.

Separating what is mixed: security and the rule

Again, this literature is complex and only a summary is possible here. I present the ideas, however, to show that discretio - in the sense of "placing oneself in the middle, seeing what is too much or not enough" (Foucault 2014: 290) - has been highly influential (yet often hidden) in western moral thought. The root, as I have mentioned, is diakrisis, what Foucault refers to as the ability to "separate what is mixed" (2014: 290). So, as well as a visual discernment, discretio historically captured the importance of "overcoming the schematic" (Widnmann cited in Lienhard 1980: 521) and the tension between abstract and specific. Modern ideas of discretion and discernment embody the idea of intellectual and ethical discrimination. So, when John Locke identified discernment and abstraction as the highest forms of mental activity (Ward 2010: 35), he was invoking Plato's argument that thinking about something involves both 'collecting' and 'splitting' (Phaedrus 265 c-e). He was also invoking the idea that discernment (diakrisis, discretio) involves seeing that the general idea and the particular ideas are not the same. Modern ideas of good ethical judgement also invoke the distinction between the abstract and the specific: discretion came to imply precisely the flexible ability to accommodate "different configurations of times, place and persons... when precept alone cannot provide an adequate guide" (Patrick 2007: 1). Recalling the earlier monastic descriptions of discretio (and the older, ancient themes of measure) good judgement requires discretion as the ability to "bring particulars into focus" and to isolate "crucial differences between ideas, instances and situations" (Patrick 2007: 13). This sense of discretion - the separation of the general and the particular as an ethical activity – survives today as the "tailored and humane application of general rules and laws to individual cases" (Pratt and Sossin 2009: 307). Contemporary discretion traces the relationship between general (rule) and specific (case) by "discovering [a rule's] meaning, characterising the present problem, and judging whether that problem is addressed by the rule" (Hawkins 1993: 35). So, discretion means making sense of rules, and making (constrained) choices about their relevance and (non)use in distinct situations.

This, clearly, is not the division of labour at work in data-led security decisions. First, the rules through which we are increasingly governed today - algorithmic rules - greatly trouble the historical relationship between general (rule) and particular (case). It is the case that some border security algorithms express in code a recognisable set of legal rules, for instance the watchlist matching of API data to identify suspects who formally meet the criminal legal requirements of "suspect" (Korff 2015: 8). In rules-based targeting, historical data generates profiles and rules - smuggling travel patterns, terror risk factors - against which new passenger data can be run. Users - like those I interviewed at the border targeting centre - generate 'input tools' to "say to the system to pick up passengers who are travelling from this flight, who have picked their ticket up three days prior to flying, for example" (Interview 9). Watchlist matching and rules-based targeting, however differ from what the developers describe as "speculative analytics-based targeting". This is a form of knowledge extraction that relies on the discernment of patterns rather than the application of pre-existing rules. It mines data to "reveal patterns in passenger and freight data most associated with risk" (SAS Analytics 2015: 13-14). The rules through which a subject is targeted are 'read off' from life transformed into data.

This is a troubling kind of *diakrisis*. The governing rules of our times in places like the border targeting centre are not only difficult to understand and hard to recover (see Korff 2015), but they are increasingly indistinguishable from life as it is lived. The blurring of life and rule appears to resonate with Agamben's monastic rule. Agamben's concern is to show that the monk's form-of-life was "a human life entirely removed from the grasp of the law" (2015: xiii), related to the world by *use*, rather than ownership. He critiques the neoliberal economic order by documenting efforts to be free of law (and its exceptional power) altogether. In the contemporary relationship between rule and life in the analytics, however, we see something much more disturbing – the impossibility of ever truly separating life and rule. In cutting edge analytics, it is no longer quite possible to place limits on what might be considered "all available and relevant information sources" (SAS Analytics 2015). An exterior governing rule that might be judiciously applied to a particular life is now replaced by the algorithmic 'making discrete' of a governable subject from his or her dispersed and heterogenous data.

The question becomes, what kind of relationship between general and particular exists in data-led security decisions? What kind of discretion (as "overcoming the schematic") resides in contexts like the border targeting centre? The automated process of distinguishing the subject must, to work, "substitute differences in kind for differences in degree, collapsing qualitative difference into enumeration and action" (Amoore and Piotukh 2015: 350). It is a process through which vast swathes of data are discarded to produce 'readable' lives that are "flattened and reduced to their common stems" (ibid.: 360, 347) – similar journeys, common travel agents, shared credit card transactions. A particular subject of interest is made discrete by what he or she shares with others, via clusters of risk and rules of

association gleaned from the general. This visualisation says nothing, however, about the "curious intangibility" of the singular life (Arendt 1957: 181) behind the data.

Again, a focus on the situated practices of the data targeting centres is revealing. The processors, my interviews show, were very much concerned with the particular and the singular. Theirs was a style of enquiry oriented towards *what* the subject is (what threat does she pose?) but also towards *who* she is (what is the story behind this risk flag?). In many ways, their work was the opposite of the classic accounts of discretion: they had to discern how and why 'the rules' had distinguished the hit.

I always try to explore every little detail. It drives you mad. If it doesn't add up or if something doesn't make sense.... Somebody's gone from Sao Paulo to Madrid, and then they've gone off to Oz and then they've come here. Well, why have they done that? I mean that's an extreme example, but I would always be thinking why have they done that? Until I know they work for a company that has bases all over or something, it doesn't sit easy. So, that's what I always find I'm doing. I don't know what [other team members] do, but I do think that I do go a bit extreme (Interview 10)

Somebody who's a frequent traveller on a budget airline to the Mediterranean may be a cigarette smuggler, they may be a golfer, they may be an ex-pat. Is there anything I see beyond that which might make a call between one and the other? [...] Because, okay, they're arriving at midnight, and who goes on holiday to arrive at midnight, especially when they're travelling with their kids? Erm, well people who want to spend their money in the bar rather than give it to Easyjet, or people who are on a business trip and are trying to reduce their margins (Interview 1)

The discretion at work in the border targeting centre is not the discovery of the meaning of a rule, "characterising the present problem, and judging whether that problem is addressed by the rule" (Hawkins 1993: 35). Nonetheless, the processors were aware, in their efforts to make a judgement call about a discernible life, that there was no "decisive analysis with high accuracy" (SAS Analytics 2015). Instead, their experience was an uncertain, intuitive and ambiguous effort to "overcome the schematic". Just as Gerson warned in that "there is no general norm [...] for distinguishing always and infallibly the revelations that are genuine from those that are false and illusionary" (cited in Voaden 1999: 57), so the algorithmic rules of border targeting were understood by practitioners to offer only a fallible means of distinguishing a risky subject from millions of bits of data.

Discerning people

I have shown that viewing discretion along conventional lines – as an individual judgement constrained (but also enabled) by legal or policy rules – has little purchase in burgeoning contexts of automation. This is because it tends to replicate the strong (and problematic) separation of humans and technologies in decision-making. My example has been the data border, but the point is more broadly applicable. Viewing *discretio* in light of its rich history – related to problems of authorising the visual and to the (intellectual and ethical) relationship between general and particular – enables us to see more clearly how humans, rules and technologies are associated within contemporary decisions about security. The characterisation of discretion as the property of a visually secure and sovereign rational liberal subject, whose relationship to the rule is one of constraint or freedom, choice and (non)invocation, hides the tensions that *discretio* historically acknowledged prominently. Despite the desire for (yet ultimate absence of) certainty in what we see and know, a rule for discerning truth or authorising judgement "always and infallibly" (as Gerson puts it) is not possible.

My argument is that viewing discretion differently – as a matter of *seeing what is there*, and *distinguishing the particular and the general* - illuminate contexts where technological sophistication, algorithmic complexity and increased automation fast appear to be altering human capacities to make decisions about the world. It is, after Aradau and Blanke (2015), a matter of "divided labour" within socio-technical relationships. We must be wary of any account of the turn to data within security (and elsewhere) which posits a redundant and passive human subject within automated algorithmic analytics, but we must also be wary of reassurances that it is "humans who still decide". We must certainly revisit the discretionary powers that border agents are said to embody. Paying attention to the situated and contingent production of security decisions at the border demonstrate that authorising the visual and discerning the particular are shared, uncertain and provisional endeavours, whatever the promise of data *to see what is really there*.

By way of conclusion, I would like to make two interrelated points. First, discretio has always been associated with specific "procedures of subjectivation" (Foucault 2014: 309). For large parts of western history, and in complete contrast to contemporary discretion, discretion meant not making a decision at all, hesitating in everything, deferring to others to test the truth of one's senses and one's very self. The subject brought into being by the practices and discourses of discretio that Cassian advocated, for example, had to accept that illusion was intrinsic to external vision, but also to her innermost life. Retrieving the history of discretio simply reinstates the difference between the deferent obedience required by religious authorities through swathes of Christian western history, and the self-confident liberal subject of modernity, whose reason alone became the foundation for securing vision, knowledge and judgement. There are clearly no straightforward analogies to be drawn. What the history of discretio reminds us, however, is that each configuration of rule and discretio produces different discerning subjects. So, the real question is not whether the rule

or judgement holds sway – in our times, this question is widely posed as whether algorithms or humans have power in decisions in public life. Rather, the question becomes what kind of discerning and discretionary subject – with what kind of qualities and capacities – is required by the rule and brought into being through discretion?

At the border targeting centre, processors frequently described themselves as being *not* responsible in their interactions with technologies. For instance, the most serious infraction at the targeting centre was to claim a hit but not process it correctly. The mistake was not to miss a suspect travelling into the country (although this was bad) but to fail to conform to the expected protocol surrounding dealing with the hit.

If we completely don't notice something, then I think we get away with it. But if we pick up on something and deal with it wrongly then I think we'd be in big trouble... I do think I disseminate the correct information (Interview 8)

Moreover, the processors described a troubled *affective* relationship with the automated system, one that resonates with accounts produced within media and cultural studies (see, for instance, Ash 2015) but which rarely feature in accounts of discretion and decision-making in contexts of public authority. So, for instance, processors sometimes experienced the temporal pace of the system, itself a product of the airline arrivals systems, as stressful and anxiety provoking. At other times, conversely, as on night shifts, the data processors described a pleasurable 'plugging into the system' that was clearly embodied and affective,

On night shift you can put the ipod on, plough through the matches. I bring my slippers in – that gives me a bit of added value to the night shift. It makes night shifts comfy. (Interview 12)

The data is 'live' in the sense of having its own rhythm, but live also in the sense of it "refreshing itself all the time, and it's about real people, real flights, you do get a sense that it is, you are dealing with more real people than I was expecting" (Interview 5).

My last point is that despite the growing understanding of the isolated (Turkle 2013), distracted (Crary 2013) and distributed (Rotman 2008) subjectivity of our times, we simply do not know enough about the ways in which affect, visual capacity and socio-cultural (as well as organisational) understandings of 'decision', 'responsibility' and 'judgement' are under revision in contexts of data-inflected public authority and power. This point is pressing in border contexts – as Côté-Boucher (2016: 64) argues, scant attention has been paid to "the impact of organisational instability and technological change on border officers' discretion". The issues are wider, however, given the growing questions about accountability in contexts of public and legal administration, where so much of 'the decision' appears to have been folded into an algorithmic process. How does the relationship between current technologies and the plasticity of human cognition, attention (and judgement) manifest itself in administrative contexts of law, policy and public

bureaucracy? With the diffusion of technologies into everyday decisions about how we are to be governed - from policing and finance, border security and health - the outline of the discretionary decision-maker is in flux, even if the problems of discretion as I have described them are perennial.

References

Agamben, G. (2013) *The Highest Poverty: Monastic Rules and Form-of-Life*. Stanford, California: Stanford University Press.

Amoore, L. and de Goede, M. (2008) 'Transactions after 9/11: the Banal Face of the Preemptive Strike', *Transactions of the Institute of British Geographers* 33.

Amoore, L. and Piotukh, V. (2015) 'Life beyond big data governing with little analytics', *Economy and Society* 44: 341-66.

Anderson, W. (2011) The Discernment of Spirits. Tübingen: Mohr Siebeck,

Aradau, C. and Blanke, T. (2015) 'The (Big) Data-security assemblage', Big Data and Society July-December: 1-12.

Arendt, H. (1957) The Human Condition. Chicago, Il.: University of Chicago Press.

Ash J. (2015) 'Technology and affect: Towards a theory of inorganically organised objects', Emotion, Space and Society 2015, 14, 84-90

Berger, J. (1972) Ways of Seeing. London: Penguin.

Bennett, J. (2005) The Enchantment of Modern Life. Princeton NJ: Princeton University Press.

Burrows, M. (1991) Jean Gerson and De Consolatione Theolgiae. Tubingen: Mohr Siebeck.

Christian, W. (1981) Apparitions in Late Medieval and Renaissance Spain. Princeton, NJ: Princeton University Press.

Clark, S. (2003) 'The Reformation of the Eyes: Apparitions and Optics in Sixteenth- and Seventeenth-Century Europe', *Journal of Religious History*: 143-60.

Clark, S. (2007) Vanities of the Eye. Oxford: Oxford University Press.

Crary, J. (2013) 24/7: Late Capitalism and the Ends of Sleep. London: Verso.

Copeland, C. and J. Machielsen (eds.) (2013) Angels of Light? Sanctity and Discernment of Spirits in the Early Modern Period. Leiden and Boston: Brill.

Côté-Boucher, K. (2016) The Paradox of Discretion: Customs and the Changing Occupational Identity of Canadian Border Officers, 56, 49-67.

Daston, L. (2017) *Rules: A Short History of What We Live By*; available at https://www.mpiwg-berlin.mpg.de/en/research/projects/rules-short-history-what-we-live.

Delatte, P. (2000) Rule of St. Benedict: A Commentary. Eugene, Oregon: Wipf and Stock Publishers.

Derrida, J. (1994) 'Nietzsche and the Machine', Journal of Nietzsche Studies 7: 7-66.

Ericson, R. (2007) 'Rule in Policing: Five Perspectives', Theoretical Criminology, 11: 367-401.

Erickson, P., Klein, J., Daston, L., Lemov, R., Sturn, T., Gordin, M. (2013) *How Reason Almost Lost Its Mind: The Strange Career of Cold War Rationality*. Chicago, Il.: Chicago University Press.

Foucault, M. (1982) 'The Subject and the Power', in H. Dreyfus and P. Rabinow, *Michel Foucault: Beyond Structuralism and Hermeneutics*, Brighton: Harvester, pp. 208-26.

Foucault, M. (2014) *On the Government of the Living: Lectures at the College de France* 1979-1980. Houndsmill: Palgrave MacMillan.

Gelsthorpe, L. and N. Padfield (2003) *Exercising Discretion*. London: Willan.

Hayles, K. (1999) How We Became Posthuman. Chicago: The University of Chicago Press.

Hawkins, K. (ed.) (1991) The Uses of Discretion. Oxford: Clarendon Press.

Heyman, D. (2011). Testimony of David Heyman, Assistant Secretary, Office of Policy, before the House Committee on Homeland Security Subcommittee on Counterterrorism and Intelligence, available at https://www.dhs.gov/news/2011/10/05/testimony-david-heyman-asst-sec-policy-house-comm-homeland-security-subcomm.

Heyman, J. M. (2009) 'Trust, Privilege, and Discretion in the Governance of the US Borderlands with Mexico', Canadian Journal of Law and Society, 24: 367-90.

House of Lords (2007) *Select Committee on European Union Twenty-First Report*. Available at https://www.publications.parliament.uk/pa/ld200607/ldselect/ldeucom/108/10805.htm

Jay, M. (1994) Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought. University of California Press.

Kalman, I. (2015). 'Don't blame me, it's just the computer telling me to do this:' Computer Attribution and the Discretionary Authority of Canada Border Services Agency Officers', Max Planck Institute for Social Anthropology Working Papers, 166.

Kleinig, J. (ed.) (1996) *Handled with Discretion: Ethical Issues in Police Decision Making*. London: Rowman and Littlefield.

Korff, D. (2015) Passenger Name Records, data mining and data protection: the need for strong safeguards. Conseil de Europe: Directorate General Human Rights and Rule of Law; available

https://rm.coe.int/CoERMPublicCommonSearchServices/DisplayDCTMContent?documentId=09000016806a601b

Liddell, H. and R. Scott (1929) Greek English Lexicon. Oxford: Clarendon Press.

Lienhard, J. (1980) 'On "Discernment of Spirit" in the Early Church', *Theological Studies* 41.3: 505-529

Lipsky, M. (1980) Street-level Bureaucracy. New York: Russell Sage Foundation.

Ossa-Richardson, A. (2013) 'Gijsbert Voet and discretio spirituum after Descartes' in Copeland, C. and J. Machielsen (eds.) *Angels of Light? Sanctity and Discernment of Spirits in the Early Modern Period*. Leiden and Boston: Brill, pp. 235-254.

Patrick, P. (2007) *Judgement in early modern England, 1580-1615*. PhD Thesis, available from https://cdr.lib.unc.edu/record/uuid:2a0f6b14-a115-497d-ad9b-8d1dbfbccca5.

Pratt, A. (2005) Securing Borders: Detention and Deportation in Canada Vancouver: University of British Colombia Press.

Pratt, A. and Sossin, L. (2009) 'A Brief Introduction to the Puzzle of Discretion', Canadian Journal of Law and Society 24(3): 301-12.

Ragazzi, M. (2014) Discretion in the Spiritual Writings of Saint Catherine of Siena. New York: Oxford University Press.

Rich, A. (2007) Discernment in the Desert Fathers. Eugene, Oregon: Wipf and Stock Publishers

Rotman, B. (2008) Becoming Beside Ourselves. Duke University Press.

SAS Analytics (2015) 'Predictive Analysis for Border Management: Removing the Hay to Find the Needles. Available at kgd.gov.kz/sites/default/files/UMS/5.4._porter_d._sas.pptx

Sossin, L. (1994) 'Redistributing Democracy: An Inquiry into Authority, Discretion and the Possibility of Engagement in the Welfare State', *Ottawa Law Review* 26: 16803

Stiegler, B. (2009) *Technics and Time, 2: Disorientation*. trans. Barker, S., Stanford University Press, Stanford, CA.

Steiner, C. (2012). Automate This: How Algorithms Took Over Our Markets, Our Jobs, and the World. London, UK: Penguin.

Turkle, S. (2013) Alone Together. New York: Basic Books.

Voaden, R. (1999) God's Words: Women's Voices: The Discernment of Spirits in the Writing of Late-Medieval Women Visionaries. York: York Medieval Press.

Walker, S. (1993) *Taming the System: The Control of Discretion in Criminal Justice* 1950-1990. Oxford: Oxford University Press.

Ward, L. (2010) John Locke and Modern Life. Cambridge: Cambridge University Press.

Zietwitz, M. (2015) 'Governing algorithms: Myth, Mess and Methods', *Science, Technology* and Human Values 41(1): 3-16.

Interviews Cited

Interview 1, Senior Data Processor, Border Targeting Centre, 4 November 2011

Interview 2, Senior Data Processor, Border Targeting Centre, 14 October 2011

Interview 3, Data Processor, Border Targeting Centre, 18 January 2012

Interview 4, Data Processor, Border Targeting Centre, 14 October 2011

Interview 5, Senior Data Processor, Border Targeting Centre, 13 October 2011

Interview 6, Senior Data Processor, Border Targeting Centre, 25 November 2011

Interview 7, Data Processor, Border Targeting Centre, 25 November 2011

Interview 8, Data Processor, Border Targeting Centre, 18 January 2012

Interview 9, Data Processor, Border Targeting Centre, 27 January 2012

Interview 10, Data Processor, Border Targeting Centre, 4 November 2011

Interview 11, Data Processor, Border Targeting Centre, 13 October 2011