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14 Borders and border control

Abstract: The chapter examines how borders and border control matter for digital criminology. It first probes the relation between border and digital criminology. It then discusses key debates of interest, honing in on questions related to knowledge and how digital devices mediate knowledge production for the purpose of border control. It last explores foundational questions of ontology and epistemology about how digital criminology itself can produce knowledge about borders and border control.

Keywords: borders, knowledge, digital, mediation

Introduction

The border is most commonly understood as the territorial demarcation between two states. This spontaneous understanding is partly misleading, but forms a useful starting point for the discussion to follow. The border is not naturally given, but is a historical, social institution and construction symbolically and physically manifested by infrastructure ranging from simple roadside signage to barriers, checkpoints or fences, landscape features given meaning as territorial edges (e.g., mountains, rivers), as well as procedures and rituals (checks on documents, body searches, vehicle inspections, and so on). All of these are integral to the practices, that is the meaningful repeated performances, grouped under the heading of border control. In the last thirty years or so, the practices manifesting the border and enacting border control have noticeably transformed through the deployment of a wide range of digital devices, including (non-exhaustively) large-scale information systems and databases, biometric sensors, computer interfaces as well as algorithms and automated software processes (see Automation by Mann). These transformations have largely occurred in relation to security as well as law and immigration enforcement concerns, and border control is accordingly an important area of interest in the field of digital criminology.

In order to account for this interest, the chapter first discusses the relation between digital criminology and border criminology, that is the domain of criminological scholarship that has made borders and border control its main concern. It then probes key debates of interest for digital criminology. These involve questions of knowledge, concerning first how digital devices mediate knowledge production for the purpose of border control, and second more foundational questions of ontology and epistemology about how digital criminology itself can produce knowledge about border control.

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Border criminology

To discuss how borders and border control matter for digital criminology, we should first examine how criminological scholarship in general has taken notice of this issue. In an early discussion, Bowling (1990: 483) noted that a "key issue on the European criminological agenda is the control of intra-European movement as border controls begin to disappear in the early 1990s," signposting interrelated concerns with "the movement of drugs, 'criminals', 'terrorists', 'hooligans', 'economic migrants', and refugees," and locating criminological concerns with the border and border control at the intersection between migration, crime, and security enforcement. Subsequent work on transnational policing (e. g., Sheptycki, 1995) highlighted more systematically how borders and border control processes were becoming key sites for the transformation of law enforcement organizations and the criminalization of transnational movements of goods, money, and persons (see Financial Crime and Surveillance by Amicelle). Since the 2000s, questions related to borders and border control have been meaningfully attended to by the domain of border criminology (Bosworth, 2008), also known as the criminology of mobility (Pickering et al., 2015).

Put succinctly, border criminology interweaves three major 'theses' (Weber and McCulloch, 2019). The 'crimmigration thesis' (Stumpf, 2006) holds that criminal and immigration law increasingly converge in terms of substance, enforcement, and procedure. The key condition of possibility for this convergence is that both criminal and immigration law "act as gatekeepers of membership [...], determining whether an individual should be included in or excluded from our society" (Weber and McCulloch, 2019: 396 – 397), the former implicitly (through incarceration and deprivation of civic rights), the latter explicitly (through immigration detention and removal). Initially US-specific, the crimmigration thesis highlights two key notions of border criminology in general. First, the border and border control are not exclusively about controlling access to the territory of the state, but about determining whether and how one belongs to a particular group, society, or political community. They concern social inclusion, exclusion, and sorting. Border control accordingly takes place in multiple sites, not just along the territorial edges of the state, and through manifold practices (for early takes, see e. g., Pickering and Weber, 2013 on Australia; Weber and Bowling, 2004, on Europe and the United Kingdom). The second overarching thesis found in border criminology is that of "governing through immigration [or border] control" (Bosworth, 2008). Because it polices belonging, border control constitutes a governance practice beyond matters of territorial access and affect foreigners and nationals of a given state alike. The third thesis is the pre-emptive or pre-crime border thesis, which concerns more specifically the 'when' of border control. Through efforts to make sense of the designation of border control as a critical (national) security function, particularly following the attacks of 11 September 2001 on US soil (Weber and McCulloch, 2019: 504), border criminology argues that the border is not only manifested at points of entry into state territory. Border control can and does occur both before a

person has entered said territory, but also before any immigration or criminal offence has been committed.

How borders and border control matter to digital criminology should be understood in relation to the main theses and themes of border criminology. The latter have from an early stage manifested an interest in the technological features of border control. In the collection edited by Pickering and Weber (2006), the focus is mostly on how increasingly automated "means of social control" (Pickering and Weber 2006: 9) relying on electronic data, such as biometric verification and identification, are effecting patterns of inclusion and exclusion among people on the move, facilitating the travels of some while relegating others to the most dangerous and difficult journeys. A decisive contribution linking the themes of border criminology and criminological preoccupations with digital devices is Katja Franko Aas' (2011). Drawing deeply from interdisciplinary references in critical approaches to security and surveillance studies, Aas foregrounds the growing number and scope of databases involved in European Union (EU) border governance and the way in which these databases collect and circulate the personal data of non-EU/third-country nationals for wide-ranging purposes encompassing and articulating border and migration enforcement with law enforcement and security rationales. She further points to how the establishment of such databases by public authorities combines with the creation of commercial databases under private authority that enable individuals to fast-track entry checks in exchange for a fee and personal data, including biometrics, and of public–private arrangements such as that involved in the processing of Passenger Name Record (PNR) data (e.g., Jeandesboz, 2021; Glouftsios and Leese, 2023).

In so doing, Aas highlights a key insight about border control that should matter to digital criminology, namely that the digital processing of data she identifies aims both at 'gate closing' and 'gate opening' for border crossers. Closings and openings operate along citizenship and nationality lines but not only, as "[t]he privilege of high mobility is not reserved only for EU citizens and, importantly, it is not a privilege enjoyed by all EU citizens. The purpose [...] is to carve out from the long lists of third country nationals the ones which are trustworthy," that is "bona fide" (Aas, 2011: 338). This speaks to a longstanding argument of surveillance studies, namely that the purpose of surveillance is "social sorting" (Lyon, 2003). Understanding border control as sorting, as producing conditional, multi-speed inclusion alongside exclusion, is possibly the most widely shared view among border and digital criminology, with the latter having explored how digital devices make a difference in effecting inclusion and exclusion. The 'how' of border control is one area where ongoing discussions within digital criminology are currently taking place.

How digital devices do mediate border control

Asking how digital devices mediate border control as a practice of social sorting raises the question of knowledge. How do persons crossing international borders become

known for the purpose of sorting? How and to what extent does digital mediation matter in this respect? At stake here is an issue that traverses the criminological literature on policing at large, namely understanding and characterizing how policing bodies, including border and immigration enforcement organizations, generate knowledge and make it actionable.

Discussions in the literature on digital mediation and border control have focused here on the relation between digitally mediated and 'traditional' or 'low-tech' modes of knowledge production (see Low-Tech by Vestad). Some scholars tend to define contemporary borders and border control principally by reference to the technologies they manifest through and their stated novelty, as 'digital' or 'technological' borders (e.g., Broeders, 2007; Dijstelbloem and Meijer, 2011), with the implication that digitally-mediated knowledge production replaces other, pre-existing practices. By contrast and to use an exemplar study, in their analysis of the production and use of Passenger Name Record (PNR) data, which is data on travelers generated for reservation and operational purposes by airlines and transmitted to border enforcement authorities for security purposes, Glouftsios and Leese (2023) characterize border control in terms of 'epistemic fusion.' Digitally-mediated knowledge production might *displace* but does not *replace* other forms of knowledge, including practices of intelligence-gathering or criminal investigation. Digitally-mediated knowledge produced about border crossers "becomes contextualized and resonates with more traditional forms of security work" (Glouftsios and Leese, 2023: 132; for policing at large Kaufmann et al., 2019, Egbert and Leese, 2021). The task ahead for digital criminology research on border control, then, is to probe the friction and fusion of different modes of knowing for the purpose of sorting international mobilities rather than assuming that digitally-mediated knowledge production has replaced other modes.

A second related discussion found in the literature examines the heterogeneity of digitally-mediated knowledge production for border control. The literature generally shares the view that digitally-mediated border control involves the reliance on profiling techniques and has become a terrain for the deployment of algorithmic knowledge production (see Algorithm by Leese). Profiling here consists in sorting border crossers by matching data held about them with certain characteristics or sets of characteristics that are associated with illicit conducts. These characteristics can be derived from clues or evidence gathered as part of an investigation (e.g., a travel document number, a set of fingerprints, a credit card number). They can alternatively be derived from practical knowledge or assumptions about a certain kind of illicit conduct (e.g., travel itineraries used for the purpose of trafficking people or goods, nationalities, age, or gender, and usually a combination of those). In this second case, profiling is "enacted in a confirmatory or hypothesis-testing way to explore whether certain patterns of characteristics are represented in the analyzed population data and if so, to put the identified individuals under scrutiny" (Leese, 2014: 498). Both evidence-based and hypothesis-based profiling are 'rules-based,' in the sense that they involve the prior establishment of a fixed set of rules to sort out data available to border enforcement authorities, and are deployed through rules-based algorithms. As Amoore (2021: 4) illustrates,

"a rules-based algorithm for calculating border risk might have arranged variables such as IF nationality X AND travel Y THEN high-risk ELSE low risk." Hers and other contributions, however, also find that a third kind of profiling is growingly manifesting in border control based on 'features' of the data generated about border crossers. Driven by the deployment of machine-learning models, 'feature-based' algorithms no longer rely on pre-established rules but on attributes inferred from the data examples fed into models. Put differently, rules that result in the sorting of border crossers in feature-based profiling are machine- rather than human-designed. The conclusion should however not be that 'feature-based' profiling is a more technologically advanced form of digital mediation or that it is replacing rules-based profiling (Glouftsios and Leese, 2023: 138). What these findings indicate, rather, is that digital mediation is heterogeneous and that there is not a single form of digitally-mediated knowledge production for border control.

Border control as a sociotechnical setting

Discussions on how digital devices mediate border control branch out into two additional sets of foundational ontological and epistemological considerations.

The ontological issue involves characterizing the kinds of entities that digital criminology is confronted with when dealing with contemporary border control. Should these entities be considered as wholly or predominantly social, or technological? Given the apparent extent in the deployment of digital devices, one could make the case that human intervention and agency is increasingly limited when it comes to sorting international mobilities, and that interaction between (non-human) devices increasingly determines sorting at the border (see Categorization and Sorting by Franko). However, most of the literature emphasizes the importance of moving beyond instrumental accounts of digital technology while warning against the shortcomings of deterministic accounts. In instrumental accounts, digital devices do not ultimately matter to the way borders are controlled, because they are fundamentally instruments of human purposes and plans, and merely participate in the implementation of the latter (Singler, 2023: 16). Digital devices are deployed to solve specific problems, in our case, to sort 'bona fide'/trustworthy from 'mala fide'/untrustworthy border crossers, and do so more or less according to (human) plan. By contrast, research findings in the literature dedicated to digitally-mediated border control show how the deployment and operation of digital devices and their properties can alter human purpose and plans through feedback effects or the generation of unintended consequences. Writing about one of the largest European information systems dedicated to border control among other purposes, the Schengen Information System (SIS), Bellanova and Glouftsios (2022: 170) highlight for instance the "flickering foundations" of digitally-mediated borders, whereby "data infrastructures have far-reaching effects while being constantly subject to errors and malfunctioning." Holding millions of records of non-EU citizens deemed inadmissible by EU countries, the SIS is simultaneously a powerful and fragile border

control device, a fickle data infrastructure whose deployment has had the unintended consequence of spawning an entire domain of activity dedicated to its constant maintenance and repair. Acknowledging the 'agentic properties' of digital devices, that is their capacity to affect, deflect, or redirect the purposes and plans underpinning their deployment should not, however, tip the analytical scales in the opposite direction by "representing the political effects of the system as entirely determined by the technical tools themselves" (Singler, 2023: 17). Digital devices become *entangled* with organizational and social dynamics within border policing organizations, rather than the determinant factor in these dynamics. In her study of frontline staff at the Canada Border Service Agency, for example, Côté-Boucher (2018) outlines how the way in which border guards make sense of their work in the uncertain context brought about by changing policy expectations, organizational standards, and technologies, is affected by professional dispositions and socialization, which they express in her case through "generational talk." "Officers' accounts", she writes, show that border control "evolves in a more multifaceted temporal world than previously thought – from nostalgia for a simpler past and accusations of anachronism to overconfidence in technologies as tools for the future" (Côté-Boucher 2018: 165). What seems to be a point of convergence in the literature, then, is that we simultaneously *populate* analytical accounts with non-human devices and their agentic properties and *people* these accounts with social dynamics in order to avoid considering the emergence of digitally-mediated border control as a seamless, frictionless process.

Understanding border control as a sociotechnical setting is also and lastly the basis for an ongoing epistemological debate in the literature on digital mediation and border control. As noted among border criminology's important voices, criminology at large has, along with other domains of scholarship in the social sciences and beyond, contributed to constitute global distinctions between 'North' and 'South' by, among other features, granting analytical prominence to Anglo-American contexts and aligning itself with Western authorities' power to make people and things 'illegal' (Aas, 2012). It is tempting to consider that digital border control devices, the purposes and plans attached to them are shaped in 'high-tech,' Western contexts and subsequently transferred elsewhere. Such a view, however, is factually questionable and analytically problematic. Frowd (2020: 148) finds for instance that what he calls the "biometric ideal" in border control, that is the "set of knowledge claims about the effectiveness and symbolism of biometrics," takes shape through transnational interactions between international and West African border control experts and practitioners. However, patterns of "emulation," which he considers the key mechanism accounting for the circulation of ideas, practices, and devices of border control, are also a result of "African agency." Deploying biometric identification as a digitally-mediated practice of border control is considered by West African practitioners as a "means of ensuring conformity to what are 'global' standards," but are also "relative to the states that are considered leaders in the area of border security" in the region, such as Mauritania in the case of Senegal (Frowd, 2020: 152).

Beyond factual accuracy, however, the challenge facing digital criminology when dealing with borders and border control involves confronting "epistemological bordering, through which the difference between the knowledge produced from the North and the South is maintained and the latter is designated as the 'other'" (Mehta, 2023: 2). This includes questioning, rather than starting from, ready-made demarcations between 'high-tech' and 'low-tech' sociotechnical settings in the field of border control, linear stories about the 'digitization' of border enforcement worldwide, as well as the silencing of historical experiences and subjectivities through abrupt categorizations such as that between 'bona' and 'mala fide' border crossers.

Main takeaways

In discussing how borders and border control matter for digital criminology, the chapter has outlined the following key points:

- While we tend to think about border control as the enforcement of territorial demarcations between states, border criminology shows that it stands for practices of sorting between wanted and unwanted ('bona/mala fide') border crossers, and as such produces conditional, multi-speed international mobilities in addition to preventing some altogether.
- Debates about digitally-mediated border control have involved in particular examining knowledge production for the purpose of sorting border crossers. Digital mediation is heterogeneous and characterized by processes of fusion and friction between different sources of data and modes of knowledge.
- Studying border control raises ontological and epistemological questions for digital criminology. Ontologically, the task requires digital criminology to both populate its analytical accounts with non-human devices and their agentic properties and people these accounts with social dynamics. Epistemologically, the task demands that digital criminology meaningfully attends to the Eurocentric features of criminological knowledge production and confronts epistemological bordering.

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