Intelligent Borders?
Securitizing Smartphones in the
European Border Regime

Michelle Pfeifer

Abstract

Rather than taking for granted the emergence and implementation of data-driven automated technologies as smooth tools of migration governance, I analyze how the discursive and political narration of intelligent borders is central for the socio-technical renderings of data-driven border and migration policing. To this end, I analyze the implementation of data-driven and semi-automated technologies to authenticate and recognize asylum seekers' identities and claims in the context of asylum administration and migration control in Germany, with a particular focus on the practice of forensic smartphone data extraction. First, I argue that discourses of intelligent borders produce smartphone data as representative of a person's history of flight and persecution, affecting a shift in asylum proceedings and decision-making that impacts political and legal personhood. Second, I show that current discursive framings of migration as a crisis in Europe make possible the proliferation of machine learning technologies in which invocations of intelligent borders reify migration management as a system of governance and administration that functions seamlessly. Third, I argue that local instances when data-driven and computational technologies emerge allow us to interrogate moments of failure and contestation and reveal the longer development of the legal and political convergence of racial securitization and migration as constitutive of the (partial) consolidation of power in the European border regime. As such, media technologies like the smartphone function to mediate contestations and struggles over the freedom of movement, recognition, and belonging.

Introduction

How do borders become intelligent? The research project iBorderCtrl funded under the Horizon 2020 program of the European Commission, answers this question by deploying AI-based innovative technologies combining biometric

verification, automated deception detection, document authentication, and risk assessment in an attempt to 'increase [the] efficiency and security' of EU external borders (iBorderCtrl Consortium, 2016). One of the most publicly discussed aspects of this allegedly intelligent system of border control is the installation of automated video lie detectors at border checkpoints where a virtual border guard interviews travelers. By reading, recognizing, and analyzing micro-expressions on faces and voices, this virtual border guard supposedly detects deceptive and fraudulent travelers. Not only is this AI-powered virtual border guard said to be more accurate in determining the validity of travelers' identities and intentions, but the developers also claim that it can 'decrease the risk of discrimination and other infringements of fundamental rights if designed and implemented properly' (iBorderCtrl Consortium, 2016). iBorderCtrl represents just one example of the reimagining of border and migration policing as intelligent. However, iBorderCtrl's technical function is based on 'deeply contested assumptions about the relationship between deception and guilt' (Sánchez-Mondero & Dencik, 2020: 14-15), suggesting that the conjuring of intelligent borders serves a political function of exclusion and selection. A plethora of adjectives describes socio-technical borders. Borders are alternately smart, digital, ephemeral, multiple, technological, virtual, datafied, or biometric. The metaphor of intelligent borders conjures assumptions about the neutrality and objectivity of data-driven border policing claiming that intelligent borders decrease risks of discrimination. It thereby conceals the continued racialized and racist violence of border and migration policing in Europe and elsewhere.

Rather than taking for granted the emergence and implementation of data-driven automated technologies as smooth tools of migration governance, I analyze how the discursive and political narration of intelligent borders is central for the socio-technical renderings of data-driven border and migration policing. To this end, I analyze the implementation of data-driven and semi-automated technologies to authenticate and recognize asylum seekers' identities and claims in the context of asylum administration and migration control in Germany, with a particular focus on the practice of forensic smartphone data extraction. First, I argue that discourses of intelligent borders produce smartphone data as representative of a person's history of flight

and persecution, affecting a shift in asylum proceedings and decision-making that impacts political and legal personhood. Second, I show that current discursive framings of migration as a crisis in Europe make possible the proliferation of machine learning technologies in which invocations of intelligent borders reify migration management as a system of governance and administration that functions seamlessly. Third, I argue that local instances when data-driven and computational technologies emerge allow us to interrogate moments of failure and contestation and reveal the longer development of the legal and political convergence of racial securitization and migration as constitutive of the (partial) consolidation of power in the European border regime. As such, media technology like the smartphone function to mediate contestations and struggles over the freedom of movement, citizenship, policing, and belonging.

I draw on interdisciplinary scholarship on media, technology, and borders that has analyzed the relationship between media technologies, migration, and borders as a particular feature of the multiplicity and dispersal of borders beyond territorial boundaries and across a variety of sites, institutions, and actors (Amoore, 2006; Broeders, 2007; Parker *et al.*, 2009; Dijstelbloem & Meijer, 2015; Casas Cortes *et al.* 2015; Tsianos & Kuster, 2016b). Looking at operations of automation, algorithmic decision-making, identification, and surveillance, scholars have analyzed the border as 'communicative infrastructure […] embedded in sociocultural and geopolitical regimes of power' (Vukov & Sheller, 2013: 227), characterized by the entanglement between territorial and symbolic borders operating 'on the ground and on screen' (Chouliaraki and Georgiou, 2019: 597). Following these scholars, I analyze the relationship between intelligence and borders as threefold: 1) as a media technological object (the case of cellphone extraction), 2) as discursive and narrative mediation (the symbolic production of intelligence and objectivity of border policing) and 3) in its material effects of (re)producing the racialized violence of border policing. This threefold analysis provides a critical interrogation of the socio-political contexts and claims for objectivity and effectiveness that make the use of data-driven technologies in migration and border policing possible in the first place.

I draw on multiple methodologies including ethnographic observations and interviews with refugee support NGOs, state

representatives, and software engineers conducted over 12 months in Germany, as well as critical policy and discourse analysis of state documents and freedom of information requests about the emergence and use of Germany's Integrated Identity Management. This eclectic archive is intended to reflect the fact that researching emerging data-driven technologies in the context of border and migration policing is notoriously difficult when faced with guarded state institutions, corporate interests, and proprietary technologies. I follow scholarship on digital and socio-technical borders that have countered how discourses of smart borders obscure, invisibilize, and conceal the concrete operations and practices of digital borders (Tsianos & Kuster 2016b). As scholars have shown, these material effects can be grasped through the labor of those who produce the smart border including software engineers and border guards, travelers, and underground networks of movement or the institutions connected by digital networks (Vukov & Sheller, 2013; Tsianos & Kuster, 2016a; Hall, 2017; Heller *et al.*, 2017). To critically examine the narratives and discourses about smartness and smoothness of border policing, the materials collected have been analyzed focusing on the specific case of smartphone data extraction in the context of asylum administration in Germany to attend to the specificity of the conditions of the emergence of so-called data-driven intelligent tools. The focus on the case of smartphone data extraction locates the material effects of the digital dispersal of borders and discourses of intelligent borders. Attending to how this nexus affects a shift in the regime of asylum determination is crucial to understand how the automation of border control impacts the distribution of rights and recognition and conceptions of the human and personhood and to reveal the administrative violence in which these tools are embedded. Thereby, this article addresses the under-theorization of race and racist violence in scholarship on the socio-technical rendering of the European border regime and seeks to open concurrent possibilities for contesting the racialized surveillance/control/technology nexus of machine intelligences used in the European border regime.

Emerging Intelligent Borders

Data-driven technologies are increasingly used for border and migration policing and administration. Their use ranges from supposedly predicting future migratory movements to the

identification and tracking of mobility through biometric databases and risk analysis. For instance, the European Asylum Support Office EASO has implemented a so-called Early Warning and Forecasting System that uses social media analysis to predict future migratory movements. Through mining social media content EASO attempts to detect new migratory routes and identify smuggler networks to predict future movement. EASO credited this practice as a success in preventing the convoy of hope during which the attempt of a group of people on the move to cross the border from Greece to Bulgaria was violently prevented by border police in 2019 (Fanta, 2019). Large interoperability projects as pursued by the EU IT agency eu-LISA attempt to integrate biometric databases to create 'efficient,' 'effective,' and 'intelligent' use of data for border security and identification (eu-LISA, 2019). In the United States, the software company Palantir Technologies has been providing many of the tools to fuel mass deportations including the analytical platforms FALCON and Integrated Case Management (ICM) used by Immigration and Customs Enforcement (ICE) to perform raids on undocumented people (Mijente, 2019). ICM amasses data from FBI and local and state police agencies as well as social media analysis and tracks phone calls, SMS and Internet activity, and license plate information (10). Algorithmic and automated technologies are also increasingly used to manage the arrival of border-crossers as is the case in Canada where automated decision systems are used in asylum administration (Molnar & Gill, 2018).

In Germany, the Federal Agency for Migration and Refugees (abbreviated in German as BAMF) first introduced algorithmic and data-driven technologies for asylum administration in a regional pilot study in 2017 that came into federal use in April 2018. The so-called Integrated Identity Management is used to authenticate the identities of asylum applications and verify statements made and information provided by asylum applicants. By providing information that is supposed to supplement and support the decision-making process over asylum cases, the system is intended to 'increase administrative efficiency and transparency as well as security and quality of asylum administration' (BAMF, 2017a: 1). This Integrated Identity Management includes self-proclaimed 'innovative' tools like transliteration software that automatically provides standardized transliteration from Arabic characters into Latin characters, facial recognition and dialect recognition software and, as I focus on in this article, the forensic extraction of

mobile data storage devices, primarily mobile phones, of asylum applicants. Helga Tawil-Souri (2011) has argued that ID cards 'mediate social and political relationships' and are a 'low-tech surveillance mechanism' that 'bring[s] into focus questions of citizenship, borders, and the "institutional materiality of the state apparatus" in everyday life' (69-70). Similarly, we can also analyze the high-tech tools of administrative surveillance as mediating particular political and social instantiations of state administration of migration in the form of asylum.

Making Data Intelligent

Since 2018, after the piloting of the Integrated Identity Management was concluded, the analysis of smartphone data became used routinely across the country. Instructions for BAMF caseworkers show that the cellphone data of interest encompasses information about the country codes of incoming and outgoing calls and messages, as well as the languages communicated in SMS or messenger apps, the countries where saved contacts reside, and the countries from which applicant's used browsers from (BAMF, 2019a). Geodata attached to pictures and metadata is also analyzed to reproduce flight routes. The data is first extracted from the phones with the use of hardware procured from the Swedish company MSAB, a self-proclaimed 'pioneer and global leader in mobile forensics' (MSAB, 2020). If successfully extracted the data is then analyzed with the use of the software XRY capable of extracting data from messenger apps like WhatsApp and social media platforms like Facebook or Instagram as well as browser histories and geotags on pictures and videos. The languages used in messages are identified using an AI-based language recognition software provided by the Austrian mobile forensics company T3K. The analyzed data is subsequently visualized in pie charts and in the form of a map indicating the different locations someone was in. Data reports include a list of names, account names, IDs, birthdays, or email addresses extracted from the phone. This data is supposed to provide clues about the veracity of identity claims and provide indications used to verify the statements made by asylum seekers in their asylum interviews and reveal inconsistencies in those statements.

The implementation of smartphone extraction and the Integrated Identity Management became framed as part of a

larger effort to digitize state administration in Germany. BAMF specifically has promoted itself as a pioneer of the digitization of state administration more generally, paving the way for what they see as a digital future of state administration. The former BAMF vice-president credited as the innovator of the digitization agenda at BAMF, who was promoted to be the appointee for information technology to the federal government in 2020, tweeted in 2018 'AI for us is not the future, but lived praxis' (BAMF, 2018). Digitization, automation, and algorithmic tools offer administrative efficiency, objectivity, and security in the asylum process, BAMF argues (BAMF, 2017). Lisa Gitelman and Virginia Jackson argue that data are 'the fundamental stuff of truth itself' and, as a result, the processes of producing or 'cooking' data are concealed and become regarded as self-evident (2013: 2). For instance, the Israeli security company Cellebrite, a major hard- and software provider of tools for smartphone data extraction to law and border enforcement agencies across the world and whose products BAMF tested during a proof-of-concept phase in 2017, advertises its products as tools that allow agencies to 'turn raw data into actionable intelligence' (2019, 6). Critical scholarship must pay attention to the processes through which data becomes cooked and in this case produced as intelligent and critically examine how such processes become concealed.

In many cases in Germany, the extraction itself is unsuccessful or only provides a limited amount of data. In the first quarter of 2019, the data analysis could confirm 44% of the identities of applicants, while it only disproved 1% of identity claims. In 55% of cases where data was extracted, there were no 'useable findings of relevance to the applicant's identity' (Deutscher Bundestag, 2019). The exact meaning of relevance and useable data here remains concealed. On a field visit to a so-called arrival center (new administrative and spatial structures instituted after 2015), an employee told me that smartphone data is both used to identify, verify, and map flight routes as well as identify smuggler networks. Moreover, a freedom of information request reveals that caseworkers are explicitly instructed to not only establish the identity and origin of applicants but also collect further evidence relevant for their asylum claims (GFF, 2019) showing that there are also capacities produced here that are not directly linked to verifying identity claims. Thus, while the discourses of intelligent data do not account for the limitations, contestations, and failures of smartphone extraction that appear in the process

of making data intelligent, it is nonetheless crucial to consider the effects of their use in asylum administration.

Despite creating an aura of authority and truth this kind of data analysis only creates an incomplete picture and narration of flight that impacts a shift in processes of decision-making in asylum administration. When a cellphone is successfully extracted and analyzed the data report becomes part of the applicant's digital file. From there it can take on a life of its own in terms of the effect these data reports can have on asylum proceedings and decision-making. Specifically, once a report is successfully compiled and cleared by a fully qualified lawyer (a necessary step as per BAMF instructions) and is added to the digital asylum file it will only be expunged after the regular ten-year term for asylum files, even if the report does not provide any usable data (GFF, 14). A legal advisor working for a refugee support NGO in Denmark, where cellphones have been extracted routinely since 2015, told me that while they have not seen data obtained in this way referenced in official asylum decisions, they have observed that the data is brought up in the questioning of asylum interviews. Analyzing the relationship between security and algorithmic knowledge, Rita Raley and Louise Amoore argue that algorithmic technologies 'reorient the embodied relation to uncertainty, so that human and non-human beings are constantly attuned to novel events and features in their data environment, becoming perennially creatively alert' (2017: 5). While BAMF emphasizes that smartphone extraction is supposed to only assist, not replace human decision-making in asylum proceedings (2017b), changing ways of questioning in asylum interviews and tracking flight routes also represent a specific shift in the administration of asylum and the imagination of political personhood. The narration of one's experiences of persecution is central to asylum claims. Scholars have analyzed how these claims are regarded with generalized suspicion (Haas & Shuman, 2019), framed through conditionality in which refugees are expected to obediently submit to a technocratic and legal asylum regime to seek protection (De Genova *et al.*, 2018) and the demand to perform according to notions of a common humanity and innocence (Ticktin, 2017). Now, data is supposed to narrate these histories of flight. In other words, the digital footprint of migration supposedly becomes more meaningful than testimony. Thus, discourses present intelligent data as representative of a person's history of flight and persecution

that is taken as natural or 'raw' data to be accessed and disregarding the processes in which this data is 'cooked' and made intelligent in the first place.

Virginia Eubanks (2018) has argued that the investment in algorithmic decision-making technologies, databases, and risk analysis for public programs, while claiming to provide efficiency that would supposedly better serve those in need, in fact creates impenetrable and invisibilized forms of targeting marginalized and exploited groups. The flawed assumption that smartphone data corresponds with someone's identity and how data reports come to influence asylum questioning or decisions are concealed also cannot be traced and, therefore, become more difficult to challenge. As such, it is important to critically examine the socio-political contexts in which such technologies emerged in Germany and Europe at large. While the implementation of data-driven tools is often framed in terms of efficiency and objectivity, in the following I suggest that they tap into a history of legal and political convergences between racial securitization, migration, and crisis discourses.

Securitizing Crises, Securitzing Smartphones

The practice of smartphone extraction emerged in the midst of what has been called the 'European refugee crisis'. Scholars have shown how the proliferation of crisis discourses worked to fuel nationalist projects (De Genova *et al.*, 2018) and reveals a crisis of European proclamations of shared cosmopolitan and humanitarian values that conceal legacies and histories of postcolonial violence and displacement and European migration policies (Bhambra, 2017; Holmes & Castañeda, 2016; Bojadžijev & Mezzadra, 2015). Nicholas De Genova (2018) has argued that the racist violence of the European border regime is rarely acknowledged and proposes to understand the 'refugee crisis' as a racial crisis of postcolonial Europe. At the same time, the momentary collapse of the European border regime as represented by the March of Hope[1] in 2015, when the German government decided to temporarily abandon the Dublin regulation, was followed by a consolidation of the deadly European border regime (Scheel, 2018; Holzberg, 2021) that also takes shape in socio-technical projects such as the Integrated Identity Management.

Referencing the momentary collapse of the European border regime in 2015 and the institutional failure of registering and administering a large number of asylum claims in the years following, BAMF advertises its new tools as flexible and scalable systems that ensure the efficiency and security of asylum administration to also manage future scenarios of migration crises (BAMF, 2019b). The state's framing of such flexible and scalable systems rests on an assumption that border and migration policies and technologies can manage and control movement and mobility at will (Neilson & Mezzadra, 2013; Scheel, 2018). Instead, scholars have characterized migration control as a struggle over autonomous movement (Papadopoulos *et al.* 2008; Casas-Cortes *et al.*, 2015) and have shown that technologies perceived as smart regularly and repeatedly fail to function seamlessly (Vukov & Sheller, 2013; Tsianos & Kuster 2016b). Similarly, invocations of smart and intelligent borders, in particular, tend to reify migration management as a system of governance and administration that functions seamlessly, therefore demanding attention to the moment of contestation and failure. To show how these narratives conceal the administrative violence of data-driven technology, I follow Stephan Scheel who argues that formulating 'a political imaginary that emphasizes the precarity, incoherence, and constant readjustment of the European border regime [opens] up a horizon for a more hopeful and assertive antiracist politics' (2018: 269). I suggest that we have to similarly account for the precarity, incoherence, and failure of intelligent borders that parade as technical solutions to political contestations to understand the emergence and legitimization of the expansion of technological means of migration and border policing by looking more closely at the symbolic and material meaning of smartphone data extraction.

Amidst the proliferation of crises in and of Europe, the smartphone has become an iconic media object of flight, appropriation, and control. Smartphones become an infrastructural necessity for possibilities of flight and are an important means of communication with friends and family at home (Gillespie *et al.*, 2016; Leurs & Ponzanesi, 2018; Alencar *et al.*, 2019) as well as for navigating life in arrival countries (Kaufmann, 2018). The refugee selfie is a similar affordance of the smartphone situated in an ambivalent space of possibilities for self-representation (Risam, 2018) and the elision of this self-representation in Western media discourse that Lilie

Chouliaraki describes as 'symbolic bordering' (2017). Gillespie et al. argue that the socio-political demarcations of deservingness that consider migrants as inherently suspicious are also visible in discourses about mobile phone usages of people on the move in which the communicative affordances that allow for flight and connections to family are seen as potentially 'enabling terrorist acts, while they are also exploited by traffickers and smugglers in order to increase their profits' (2016: 31). As such, the smartphone is illustrative of the enmeshment of care and control that characterizes humanitarian migration management and border policing (Ticktin, 2011; Walters, 2011).

In this vein, smartphones have also become an increasing target of state surveillance of migration and flight. The smartphone itself has been described as a liability by the president of BAMF. Arguing against labor integration of asylum seekers as possibly creating incentives for migration, he suggested that smartphone communication among migrant networks poses a risk for future movements (dpa, 2019). The word incentive here functions as a euphemism for so-called pull factors, but it also frames the ubiquitous use of telecommunications technology as a potential risk for future migrations to Germany. Thus, smartphone extraction also emerges as part of a history of deterrence strategies that have created numerous risks for people on the move (Gillespie *et al.*, 2016; Loyd & Mountz, 2018). Accordingly, BAMF has imagined itself as a security (rather than a welfare or humanitarian) institution. The former vice-president of BAMF said in 2018 that 'BAMF is indirectly part of the German security architecture', seeing his agency as performing the first security check, even before the Federal Office for the Protection of the Constitution (Germany's domestic intelligence agency) and the federal police (Unger, 2018). Crisis discourse shapes how data-driven technologies are implemented, as well as the framing of such tools as intelligent and innovative extensions of a digitized security state.

Administering Glitches

In preparation for this article, I was trying to ease the labor of interview transcription and decided to use an AI audio-to-text transcription service. While producing what seemed to be a surprisingly high accuracy rate, I still had to go over transcripts

and smooth out some inaccuracies. The word al-Qaida caught my eye. The word appeared in the transcript of an interview with a legal advisor at a refugee support NGO and I could not remember having a conversation about al-Qaida at the time. Listening to the recording to double-check the transcription I realized that the word appeared a couple of times while we were speculating about the possible uses and conclusions drawn from smartphone data in asylum determination. The advisor was mentioning cases in which they thought it might be relevant to try to verify or contradict the statements made by applicants including cases involving minors or women who are from Afghanistan. On the audio recording there was no mention of al-Qaida. The AI software had transcribed the word minor as al-Qaida. While anecdotal, this glitch of a speech-to-text transcription allows us to show what Ruha Benjamin (2019) describes as the naturalization and automation of social inequality that is concealed in metaphors of intelligent borders. Benjamin argues that race works as a technology that 'generate[s] patterns of social relations [that] become Black-boxed as natural, inevitable, automatic' (44-45). Simone Browne has formulated the concept of racializing surveillance to show that not only does racial and gendered bias in technology reinforce racism and inequality, but surveillance practices and technologies produce race, and racial discrimination, by exercising the 'power to define what is in or out of place' (2015: 16). Following Browne, a critical analysis of smart and intelligent borders must also consider how technologies that sort and designate risk at "territorial, epidermal, and digital" borders visualize and classify bodies along the lines of race and gender while claiming to be neutral (128-129). The coded proximity between Afghanistan and al-Qaida that appears in the anecdote about transcription relates to how the proximity between asylum seekers and terrorists has become reproduced and anchored in legal and administrative practice.

The German government had to create a legal basis to make possible the considerable encroachment of privacy and violation of data protection performed through smartphone extraction. A change in residence law passed in 2015 had already made it possible for foreigners' offices[2] (in German: *Ausländerbehörde*) to extract data from the mobile devices of foreigners, either because they have no identification documents or those provided are considered inauthentic or fraudulent. This practice falls under the so-called obligation to

cooperate with the determination of one's identity to make deportation possible. BAMF, however, was not yet able to practice the same while the number of asylum applicants without papers continued to be a governmental problem for the administration of asylum. According to asylum statistics of the German government, 55.4% of asylum seekers do not have identification papers (Deutscher Bundestag, 2019). This lack could be attributed to many things, including the confiscation of documents during flight by smugglers, loss of documents, or the withholding of documents because of the fear of persecution that might have brought someone to Germany in the first place.

In the summer of 2017, the German parliament passed the 'law for the better implementation of the return process' dubbed by civil society actors the 'Fuck-off law' (in German: *Hau-ab Gesetz*) because it significantly expanded Germany's deportation machine, including the expansion of deportation detention. The law also included possibilities of data exchange between different security institutions and provided the legal basis for the systematic extraction of data from smartphones and other mobile data storage devices. Significantly, this change in asylum law explicitly included the possibility of data exchange between police institutions and agencies in cases where danger to someone else would be suspected. Decisive for this political direction of legislation was the terrorist attack on 19 December 2016 when Anis Amri ran a truck into a Berlin Christmas market killing 12 people and injuring 55. Amri was under observation by several German security and intelligence agencies and officially tracked as a *dangerous person* (in German: *Gefährder*) and was earmarked for deportation. Subsequently, politicians seized the political opportunity to pass laws making possible the heightened surveillance of migrants in Germany and expand possibilities of migrant detention and deportation (Busch, 2017).

The 2017 restrictions made into law the convergence between counter-terrorism and migration. Civil society actors critiqued this systematic data extraction as a significant violation of privacy that is anchored in German Basic Law, claiming that it creates a 'transparent refugee' and making possible mass surveillance (GFF, 2019; ProAsyl, 2019). The metaphor of the transparent refugee first emerged in Germany in the early 1990s through critiques of large-scale restrictions of asylum law at the time. Translated from the German word *gläsern*, this

metaphor describes how surveillance technologies can see through a person's identity and behavior without protections. The change in asylum law included provisions that made it possible to include information from both national and international security, police, and intelligence authorities in the central foreigner's database[3] creating a further convergence between the foreigner's office and policing, making foreigners' offices a prosthesis for the police (ProAsyl, 1990: 6). This historical antecedent also shows that the volatile and racially coded term *Ausländer*, translating into foreigner or alien, lends itself here to become mobilized for further development of extraction capacities that become mobilized for the racial securitization of migration through administrative practices (Bigo, 2002; Moffette & Vadasaria, 2016) such as the kind of capacity building that has been dubbed database interoperability. As discussed above, the reports about mobile phone data have effects beyond their intended function and could be shared with security institutions (GFF, 26). BAMF is also piloting an AI-based system that searches asylum interview transcripts for 'potentially relevant text passages' that indicate security risks, such as terrorism, that need to be forwarded to the Federal Office for the Protection of the Constitution (Biselli & Meister, 2019). This convergence between counter-terrorism, securitization, and migration also shows that the symbolic production of machine intelligences is entangled with and relies on the coded proximity between race, migration, and criminality.

As Safiya Noble has argued, representing racial bias in tech as glitches in an otherwise well-oiled machine conceal how these are fundamental to the operations of technological racial and gendered oppression (2018: 10). Taking the glitch as a fundamental operation reveals that the violence of the technologized European border regime is integral to the discursive and symbolic production of intelligent border policing as objective and efficient. As such, arguments about the use(lessness), (in)conclusiveness, or appropriateness of smartphone extractions fail to fully acknowledge that the extraction of data still has considerable effects. Attention to emerging technologies of machine intelligence shows the complexity and interpenetration of the narrative, discursive, and symbolic production of objectivity, efficiency, and smartness conjuring magical desires for efficiency and smoothness as their tangible material effects of boundary-making.

Paying attention to these effects also refocuses the significant racialized and racist violence of borders that tend to become obscured and similarly smoothed out in metaphors of smartness and intelligence. As Petra Molnar argues, the lack of regulation when it comes to the experimentation with border AI is deliberate as it allows for private sector innovation and avoidance of state accountability (2019: 309). As public contracts often allow for 'frontier research' for technological development (Tsianos & Kuster, 2016a: 243) implementation of their use in migration and border policing also functions as a form of experimentation in governance. The practice of smartphone extraction has gone through many such adjustments. For instance, stories of manipulation were circulating. It has been suggested that asylum applicants swipe their phones clean before arrival in Germany and stories about an emerging market for doctored smartphones led BAMF to integrate the extraction early in the asylum determination process (Unger, 2018). The BAMF president said in an interview that only if smartphones are confiscated as soon as people arrive in Germany can they make sure that they will have access to the phones used prior and/or during flight (Migazin, 2020). At the same time, reports and testimonies about violence by people moving along the Balkan route show that mobile phones are confiscated and destroyed by border guards and police (MSF, 2017; Augustova *et al.*, 2018). This looming specter of manipulation and the state and administrative violent capture of autonomous movement situates the smartphone as a media object that allows us to show the different contestations, struggles, and mediations over the freedom of movement, citizenship, policing, and belonging.

Conclusion

Metaphors about intelligent, smart, digital, virtual, and technologized borders assume that border and migration policing is a smooth system of governance that can regulate mobility at will. This picture of smoothness, intelligence, and objectivity conceals the continuous racial and racialized violence of the European border regime. Following scholarship on (digital) borders, migration, and digital media, I have analyzed the relationship between intelligence and borders 1) as a media technological object, 2) as discursive and narrative mediation and 3) in its material effects. This approach allows for an analysis of the interpenetration of the narrative,

discursive, and symbolic production of objectivity and efficiency of intelligent borders and their tangible material effects of boundary-making, and accounts for how borders impact not only the territorial edges of Europe but also the internal encounters of reception and asylum. While the practice of smartphone data extraction is framed as providing objectivity, efficiency, and security in asylum determination by the state, it produces and positions data as representative of individual histories of flight and persecution. This conceals the racist violence these tools are predicated on in the first place and the effects they have beyond official narratives of technological objectivity. Specifically, smartphone extraction serves as a deterrence strategy, builds capacities for the further control of migration and people on the move, and naturalizes data as representative of histories of flight. Looking beyond discourses about the appropriateness and effectiveness of data-driven tools, I suggest examining the longer convergence of racial securitization and migration to show how racialized suspicion in asylum administration becomes retooled as technologies that become regarded as commonplace and naturalized. Those materialities of border and migration policing in an age of machine intelligence come into stark relief when considering the violent and deadly effects of those technologized boundaries as the Mediterranean Sea continues to be the world's deadliest border and technological surveillance projects are used as deterrence strategies that are intended to heighten risks for people on the move, rather than reduce them.

Notes

1. During the March of Hope in summer 2015 people on the move walked from Keleti train station in Budapest towards the Austrian border.

2. Foreigners' offices are in charge of issuing or denying residence permits, verifying identities, and issuing deportation notices of all aliens residing in Germany.

3. The central foreigners' database (in German *Ausländerzentralregister*) is one of the largest automated registries including around 26 million entries of personal data registering any 'foreigner' who has or does reside in Germany for more than three months.

References

Alencar, A. et al. (2019) "The smartphone as a lifeline: an exploration of refugees' use of mobile communication technologies during their flight", *Media, Culture & Society* 41. No. 6: 828-844.

Amoore, L. (2006) "Biometric borders: Governing mobilities in the war on terror", *Political Geography* 25: 336-351.

Amoore, L. & Raley, R (2017) "Securing with algorithms: Knowledge, decision, sovereignty", *Security Dialogue* 48. No. 1: 3-10.

Augustova, K. et al. (2018) *Border Violence on the Balkan Route*. Noname Kitchen, Lyuta Krajina and Balkan Info Van.

Benjamin, R. (2019) *Race after Technology*. Cambridge: Polity Press.

Bhambra, G. (2017) "The current crisis of Europe: Refugees, colonialism, and the limits of cosmopolitanism", *European Law Journal* 23: 395–405.

Bigo, D. (2002) "Security and Immigration: Towards a Critique of the Governmentality of Unease", *Alternatives* 27. No. 1: 63–92.

Biselli, A. & Meister, A. (2019) "Asylbehörde sucht mit Künstlicher Intelligenz nach auffälligen Geflüchteten", *Netzpolitik.org*. (Accessed 10 Oct 2019): https://netzpolitik.org/2019/asylbehoerde-sucht-mit-kuenstlicher-intelligenz-nach-auffaelligen-gefluechteten/.

Bojadžijev, M. & Mezzadra, S. (2015) "'Refugee crisis' or crisis of European migration policies?", *Focaal Blog* (November 12th): https://www.focaalblog.com/2015/11/12/manuela-bojadzijev-and-sandro-mezzadra-refugee-crisis-or-crisis-of-european-migration-policies/.

Broeders, D. (2007) "The New Digital Borders of Europe: EU Databases and the Surveillance of Irregular Migrants", *International Sociology* 22. No. 1: 71–92.

Browne, S. (2015) *Dark Matters: On the Surveillance of Blackness*. Durham: Duke University Press.

Bundesamt für Migration und Flüchtlinge (BAMF). (2017a) "Integriertes Identitätsmanagement: Assistenzsysteme", *Presseinformation.* Bamberg: BAMF.

Bundesamt für Migration und Flüchtlinge (BAMF). (2017b) "Moderne Technik in Asylverfahren", *Meldung.* Nürnberg: BAMF.

Bundesamt für Migration und Flüchtlinge (BAMF). (2018) *Twitter post*, on 3 December 2018, 2:39 p.m. https://twitter.com/BAMF_Dialog.

Bundesamt für Migration und Flüchtlinge (BAMF). (2019a) *DA-Asyl 3.1.3*. Nürnberg: BAMF.

Bundesamt für Migration und Flüchtlinge (BAMF). (2019b) *Digitalisierungsagenda*. Nürnberg: BAMF.

Busch, H. (2017) *Almost suspicious: the unbearable lightness of legislation*. (Trans.) V. Langer. Statewatch.

Casas-Cortes, M. et al. (2015) "New Keywords: Migration and Borders", *Cultural Studies* 29. No. 1: 55-87.

Cellebrite. (2019) *Product Catalog*. Kiryat Aryeh: Cellebrite.

Chouliaraki, L. (2017) "Symbolic bordering: The self-representation of migrants and refugees in digital news". *Popular Communication* 15. No. 2: 78-94.

Chouliaraki, L. & Georgiou M. (2019) "The digital border: Mobility beyond territorial and symbolic divides", *European Journal of Communication* 34. No. 6: 594-605.

De Genova, N. (2018) "The 'migrant crisis' as racial crisis: do *Black Lives Matter* in Europe?" *Ethnic and Racial Studies* 41. No. 10: 1765-1782.

De Genova, N. et al. (2018) "Autonomy of Asylum? The Autonomy of Migration: Undoing the Refugee Crisis Script", *South Atlantic Quarterly* 117. No. 2: 239-265.

Dijstelbloem, H. & Meijer, A. (2015) *Migration and the New Technological Borders of Europe*. UK: Palgrave Mcmillan.

DPA. (2019) "BAMF-Chef moniert falsche Anreize für potenzielle Flüchtlinge", *RP online*. (July 9th): https://rp-online.de/panorama/deutschland/bamf-chef-hans-eckard-sommer-moniert-falsche-anreize-fuer-potenzielle-fluechtlinge_aid-42021337.

Deutscher Bundestag (2019). *Drucksache 19/11001*. Köln: Bundesanzeiger Verlag GmbH.

Eubanks, V. (2018) *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. New York: St. Martin's Press.

Eu-LISA. (2019) "EU Interoperability: EU IT Systems working together for a safer Europe", *Eu-LISA Leaflet*.

Fanta, A. (2019) "Data Watchdog raps EU Asylum body for snooping", *EU Observer* (December 9th): https://euobserver.com/investigations/146856.

Gillespie, M. et al. (2016) "Mapping Refugee Media Journeys: Smartphones and Social Media Networks", *Research Report*. The Open University and France Médias Monde.

Gitelman, L. & Jackson, V. (2013) "Introduction", in *Raw Data is an Oxymoron,* (ed.) L. Gitelman. Cambridge*:* MIT Press.

Gesellschaft für Freiheitsrechte e.V. GFF. (2020) *Invading Refugees' Phones: Digital Forms of Migration Control in Germany and Europe*. GFF*:* Berlin.

Haas, M. & Shuman, A. (eds.) (2019) *Technologies of Suspicion and the Ethics of Obligation in Political Asylum.* Athens: Ohio University Press.

Hall, A. (2017) "Decisions at the data border: Discretion, discernment and security", *Security Dialogue* 48. No. 6: 488-504.

Heller, C. at al. (2017) "Disobedient Sensing and Border Struggles at the Maritime Frontier of Europe", *Spheres* 4: 1-15.

Holmes, S. & Castañeda, H. (2016) "Representing the 'European refugee crisis' in Germany and beyond: Deservingness and difference, life and death", *American Ethnologist* 43. No. 1: 12-24.

Holzberg, B. (2021) "Wir schaffen das: Hope and hospitality beyond the humanitarian border", *Journal of Sociology* 57. No. 3: 743-759.

iBorderCtrl Consortium. (2016) "Frequently Asked Questions", *iBorderCtrl Consortium* (Accessed 4 June 2020): https://www.iborderctrl.eu/Frequently-Asked-Questions.

Kaufmann, K. (2018) "Navigating a new life: Syrian refugees and their smartphones in Vienna", *Information, Communication & Society* 21. No. 6: 882-898.

Leurs, K. & Ponzanesi, S. (2018) "Connected migrants: Encapsulation and cosmopolitanization", *Popular Communication* 16. No. 1: 4-20.

Loyd, J. & Mountz, A. (2018) *Boats, Bases, Borders: Race, the Cold War and the Rise of Migration Detention in the United States*. Oakland: University of California Press.

Mijente. (2019) *The War Against Immigrants: Trump's Tech Tools Powered by Palantir*. Mijente Report.

Migazin. (2020) "BAMF-Chef Sommer: Fachkräft aus Europa anwerben statt aus Entwicklungsländern", *Migazin* (Accessed February 10th, 2020): https://www.migazin.de/2020/02/03/fachkraefte-aus-europa-anwerben-statt-aus-entwicklungslaendern/.

Molnar, P. (2019) "Technology on the margins: AI and global migration management from a human rights perspective", *Cambridge International Law Journal* 8. No. 2: 305-330.

Molnar, P. & Gill, L. (2018) *Bots at the Gate: A Human Rights Analysis of Automated Decision-Making in Canada's Immigration and Refugee System*. International Human Rights Program & Citizen Lab and University of Toronto.

Moffette, D. & Vadasaria, S. (2016) "Uninhibited violence: race and the securitization of immigration", *Critical Studies on Security* 4. No. 3: 291-305.

MSAB. (n.d.) "About MSAB", *MSAB* (Accessed August 10th, 2020): https://www.msab.com/.

MSF. (2017) "Games of Violence: Unaccompanied Children and young People repeatedly abused by EU Member State Border Authorities", *MSF*. https://www.msf.org/sites/msf.org/files/serbia-games-of-violence-3.10.17.pdf

Neilson, B. & Mezzadra, S. (2013) *Border as Method, or, the Multiplication of Labor.* Durham: Duke University Press.

Noble, S. (2018) *Algorithms of Oppression: How Search Engines Reinforce Racism*. New York: NYU Press.

Papadopoulos et al. (2008) *Escape Routes: Control and Subversion in the Twenty-First Century*. London: Pluto Press.

Parker, N. (2009) "Lines in the Sand? Towards an Agenda for Critical Border Studies", *Geopolitics* 14: 582-587.

ProAsyl. (1990) *Asylrecht ist Menschenrecht*. ProAsyl.

ProAsyl. (2019) "Sachverständigen Stellungnahme für die öffentliche Anhörung am 27. März 2017 vor den Innenausschuss des Deutschen Bundestages zum Gesetzentwurf der Bundesregierung Entwurf eines Gesetzes zur besseren Durchsetzung der Ausreisepflicht", BR-Drucksache 179/17.

Risam, R. (2018) "Now you see them: Self-representation and the refugee selfie", *Popular Communication* 16. No. 1: 58-71.

Sánchez-Monedero, J. & Dencik, L. (2020) "The politics of deceptive borders: 'biomarkers of deceit' and the case of iBorderCtrl", *Information, Communication, and Society*. DOI: 10.1080/1369118X.2020.1792530.

Scheel, S. (2018) "Recuperating through Crisis Talk: Apprehending the European Border Regime as a Parasitic

Apparatus of Capture", *South Atlantic Quarterly* 117. No. 2: 267-289.

Tawil-Souri, H. (2011) "Colored Identity: The Politics and Materiality of ID Cards in Palestine/Israel", *Social Text 107* 29. No. 2: 67-97.

Ticktin, M. (2011) *Casualties of Care: Immigration and the Politics of Humanitarianism in France.* Berkeley: University of California Press.

Ticktin, M. (2017) "A world without innocence", *American Ethnologist* 44. No. 4: 577-590.

Tsianos, V. & Kuster, B. (2016a) "Eurodac in Times of Bigness: The Power of Big Data within the Emerging European IT Agency", *Journal of Borderlands Studies* 31. No. 2: 235-249.

Tsianos, V. & Kuster, B. (2016b) "How to Liquefy a Body on the Move: Eurodac and the Making of the European Digital Border", in *EU Borders and Shifting Internal Security,* (eds.) R. Bossong & H. Carrapico. Switzerland: Springer.

Unger, C. (2018) "BAMF nach Überforderung bei Flüchtlingskrise neu aufgestellt", *Berliner Morgenpost* 18.12.2018.

Vukov, T. & Sheller, M. (2013) "Border work: surveillant assemblages, virtual fences, and tactical counter-media", *Social Semiotics* 23. No. 2: 225-241.

Walters, W. (2011) "Foucault and Frontiers: Notes on the Birth of the Humanitarian Border", in *Governmentality: Current Issues and Future Challenges* (eds.) U. Röckling et al. New York: Routledge.