Epistemic Domination by Data Extraction

Scheel, Stephan

Epistemic Domination by Data Extraction: Questioning the Use of Biometrics and Mobile Phone Data Analysis in Asylum Procedures

by Stephan Scheel (Leuphana University of Lüneburg)[1]

Abstract: *In a growing number of destination countries state authorities have started to use various digital devices such as analysis of data captured from mobile phones to verify asylum seekers' claimed country of origin. This move has prompted some critics to claim that asylum decision-making is increasingly delegated to machines. Based on fieldwork at a reception centre in Germany, this paper mobilises insights from science and technology studies (STS) to develop a framework that allows for more nuanced analyses and modes of critiques of the digitization of asylum procedures. Rather than thinking human and non-human forms of agency as external to one another in order to juxtapose them in a zero-sum game, I comprehend the introduction of digital technologies as a reconfiguration of existing human-machine configurations. This conception highlights how the use digital technologies enables caseworkers to retain their position as an epistemic authority in asylum decision-making by assembling clues about asylum seekers' country of origin generated by digital technologies into hard juridical evidence. Subsequently, I develop an alternative critique that focuses on epistemic implications of the digitisation of asylum procedures. I identify a particular version of data colonialism that enables epistemic domination by means of data extraction.*

Keywords: asylum determination, decision-making; digitization; discretion; epistemic justice; refugees

Introduction

In June 2021 the administrative court of Berlin ruled the extraction and analysis of asylum seekers' mobile phone data to be unlawful (Verwaltungsgericht Berlin 2021b). For four years, employees of the Federal Office for Migration and Refugees (BAMF) – the agency responsible for the processing of asylum claims in Germany – had routinely captured data of asylum

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[1] Corresponding author: stephan.scheel@leuphana.de

seekers' mobile phones if an applicant could not present a valid proof of identity like a passport or ID card (Federal Ministry of Interior 2017). According to official figures, this applies to more than 50% of people applying for asylum in Germany (Deutscher Bundestag 2021, 26–27). Hence, each year BAMF employees have analysed sensitive personal data from thousands of mobile phones. Data are captured by default at a very early stage of the application procedure to support caseworkers in their attempts to establish an applicant's identity and country of origin.[2] And these data are extensive: they include all country codes of contacts in the address book, incoming and outgoing calls by duration and country codes, incoming and outgoing text messages by country code and language used, browsing history according to country endings of visited web sites, and location data from photos and apps (Biselli and Beckmann 2020, 18).

A woman from Afghanistan, whose asylum application had been rejected in 2019 with reference to the results report of her analysed mobile phone data, contested the lawfulness of this measure in court. Her lawyers argued that it was disproportionate as less severe means for establishing the woman's identity and country of origin had been available (Verwaltungsgericht Berlin 2021b, 4–5). In its decision the court followed the lawyers' assessment that the analysis of asylum seekers' mobile phone data is only meant to offer caseworkers 'clues' about asylum seeker's country of origin, but not conclusive juridical evidence.

This assessment sits in contrast with the framing of digital surveillance technologies as omnipotent control devices whose introduction in asylum procedures implies that 'decision-making on refugees' fates is increasingly delegated to machines' (Biselli 2017). Variations of this critique can be found in the media and social scientific accounts. Discussions about the ethical and political implications of digital technologies in asylum procedures, for example, often buy into the efficacy and functionality that technology providers attribute to digital methods of identification and country of origin determination (e.g. Beduschi 2020; Jasmontaite-Zaniewicz and Zomignani Barboza 2021; Molnar 2021).

What is problematic about such accounts is that they assume a zero-sum game between the agency of human caseworkers and the presumed decision-making powers of digital technologies, thus invoking the spectre of a looming automation of migration control (Biselli and Beckmann 2020; McAuliffe 2021; Molnar 2021). This dystopic narrative might offer–precisely because of its pop-cultural appeal – a powerful resource for scandalising the growing

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[2] The following account on extraction and analysis of asylum seekers' mobile phone data is written in present tense because the BAMF has continued with its routinized practice since the verdict of the Berlin court. The BAMF argues that this verdict would only concern an individual case, but not the procedure in general and has lodged an appeal at the Higher Administrative Court (HAC) in Leipzig. In February 2023 the HAC confirmed the ruling of Berlin's administrative court (Tagesschau 2023). However, it remains to be seen how this final judgement of Germany's highest administrative court will affect the BAMF's practices on the ground.

use of highly invasive surveillance technologies on asylum seekers. I argue, in contrast, that such accounts risk oversimplifying how such technologies are actually used in asylum procedures with what kind of effects. Ultimately, the invocation of a delegation of asylum decision-making to machines runs the risk of resulting in skewed accounts of what is actually happing in practice, culminating in criticisms that may prove to be easily refutable.

This article proposes a framework which allows scholars to develop more nuanced analyses and critiques of the digitization of asylum procedures. This framework takes cue from insights and approaches that have been developed in Science and Technology Studies (STS). Rather than thinking human and non-human forms of agency as external to one another in order to juxtapose them in a zero-sum game, this STS-inspired framework permits to comprehend the introduction of digital identification technologies in asylum procedures as a reconfiguration of existing 'human-machine configurations' (Suchman 2007). To this end, the article develops an understanding of digitized asylum procedures as involving multiple data practices through which data are produced and analysed in order to be translated into clues, conclusive evidence and, eventually, juridical decisions about an asylum applicant's country of origin and the credibility of asylum seeker's own accounts. Such a conception of asylum decision-making as material-semiotic, socio-technical procedures, I argue, allows for more nuanced analyses which open up multiple points of attack for a more powerful and persuasive forms of critique of the use of digital devices of truth production in asylum procedures.

In what follows I develop these arguments in three sections through an analysis of three digital technologies that are part of the BAMF's 'Identity Monitoring System' (IDM-S). Besides the analysis of asylum seeker's mobile phone data, the IDM-S includes speech biometrics (also known as dialect recognition) and a transliteration software. The IDM-S was introduced in 2017 to improve both the quality and the efficiency of asylum decision-making in Germany (Federal Ministry of Interior 2017). Based on the STS-inspired framework outlined above, the following analysis is guided by two interrelated questions: First, how does the introduction of digital technologies as means of truth production affect decision-making on asylum claims? And second, what kind of concepts and theoretical resources may allow for more nuanced and powerful critiques of the digitization of asylum procedures and the turn towards migrants' bodies and data shadows as sources of truth? After elaborating the article's conceptual framework, the following two sections address these two research questions in consecutive order.

Finally, a note is needed in regards to the empirical material on which the subsequent analysis is based. During two field visits at a migrant reception centre in Berlin in November

and December 2019 I was able to observe all stages of the first registration procedure of asylum seekers, including the IDM-S procedures of the BAMF. These observations were combined with semi-structured interviews with frontline and back-office staff. Subsequently, fieldwork had to be put on hold due to the COVID-19 pandemic. Since on-site visits were still not possible in 2021, it was decided to finalise fieldwork by discussing open questions on the IDM-S in three in-depth interviews with caseworkers via video-call. In these interviews research participants were treated as ethnographers of their own practices (Mol 2002) and the interviews focused primarily on the practicalities and materialities of doing country of origin determination and credibility assessments with the support of data and clues provided by digital technologies. Hence, the chosen methodology enables a praxiographic analysis as called for by material-semiotic approaches. In sum, the following analysis is based on two days of observation of IDM-S procedures, 12 semi-structured interviews and a thorough analysis of official instructions, training materials and other documents on the use of IDM-S technologies.

A Material-semiotic Reading of Asylum Procedures: Human-machine configurations, digital power, and the (dis)assembling of credibility

Scholarship on asylum decision-making highlights the importance of caseworkers' discretion, understood as the room of manoeuvre frontline officers enjoy in their work (Affolter, Miaz, and Portner 2019; Jubany 2017; Liodden 2020; Magalhaes 2016). However, many studies caution against the framing of 'street-level bureaucrats' (Lipsky 1980) working in contexts of border and migration control as 'petty sovereigns' (Butler 2004) with an unrestricted power to decide (cf. Eule et al. 2019; Magalhaes 2016; Scheel 2019). Rather, the discretion and decision-making of caseworkers is shaped by a range of factors, such as the requirement to frame decisions as being informed by legal norms (Liodden 2020), the challenge to juggle conflictive institutional objectives, informal rules of 'communities of interpretation' (Affolter, Miaz, and Portner 2019), or a profound 'sense of pragmatism' (Eule 2018) in the context of heavy work-loads.

Others highlight that discretion cannot be erased through ever more detailed guidelines that simply have to be implemented by frontline officers. Rather, discretion constitutes an irreducible 'part of the reality of policy implementation' because it permits street-level bureaucrats working on the frontline to adapt abstract laws and regulations to individual cases and local circumstances (Bouchard and Carroll 2002, 242; Lipsky 1980, 16). This adaptation work is particularly relevant in the assessment of asylum claims because the granting of refugee status is based on the substantiation of an individual's 'well-founded fear of being persecuted

for reasons of race, religion, nationality, membership of a particular social group, or political opinion' (UNHCR 2010) in the country of citizenship. Furthermore, claimants have to convince asylum authorities that they are 'unable to or, owing to such fear, […] unwilling to avail [themselves] of the protection of that country' (ibid.). Hence, caseworkers need to assess – on a case-by-case basis – if the asylum seeker's claim of a 'well-founded fear' is credible considering the evidence provided and in view of available country of origin information (COI). Consequently, caseworkers first need to determine the nationality of the applicant because it is the political situation in the applicant's country of citizenship which provides the yardstick for assessing the existence of a 'well-founded fear' and thus eligibility for refugee status.

However, caseworkers often have to decide on asylum applications under 'conditions of radical uncertainty' (Liodden 2020, 645) resulting most notably from incomplete information and lack of documentation or other forms of 'objective' evidence. Moreover, numerous authors have shown that migration administrations – and in particular asylum procedures – are pervaded by a 'culture of disbelief' (Borrelli 2022; Bohmer and Shuman 2018; Jubany 2017; Griffiths 2012). Accordingly, a suspicion by-default approach is considered as a sign of professionalism by many caseworkers, efficiently resulting in an inversion of the burden of proof (Affolter 2022). It is the asylum seeker who has to convince caseworkers of the credibility of their 'protection story' and the existence of verifiable 'well-founded fear' through a narrative that is considered as 'consistent' and 'plausible' by caseworkers as its core features resonate with available 'country of origin information' (COI) (Thomas 2006; van der Kist 2023, this issue).

One implication of the culture of disbelief is that credibility assessments of asylum seeker's claimed nationality and reasons for protection nowadays lie at the heart of asylum hearings and decision-making (Magalhaes 2016; Nielson and Möller 2022; Sorgoni 2019; Thomas 2006). Asylum seekers' narratives and identity claims become the 'focal point of suspicion' and authorities have introduced a range of technologically mediated, allegedly scientific methods to produce 'factual' evidence to question asylum seeker's narratives and to verify their claimed identities and nationalities (Bohmer and Shuman 2018, 11–12; Fassin and D'Halluin 2005; Maguire and Rao 2018; Pollozek and Passoth 2023, this issue). Examples in the context of asylum procedures include biometric databases, forensic age assessments, medical exams, language analysis by linguists, speech biometrics or the analysis of asylum seekers mobile phone data.

Hence, asylum procedures illustrate two developments in contemporary border and migration management: First, practices of border and migration control have increasingly become knowledge practices. Second, these knowledge practices involve a growing number of

identification and surveillance technologies. What is new are not the culture of disbelief in asylum procedures, but the availability and use of information and identification technologies providing alternative means of truth production (see also the introduction to this issue on this point: Amelung et al 2024). These technologies are mostly digital devices that use migrants' bodily features and data shadows as means to monitor and trace migrants' movements, whereabouts, identities and bureaucratic trajectories (cf. Glouftsios and Scheel 2020). Hence, state authorities' capacity to translate hitherto unknown migrants into re-identifiable, governable subjects and to make distinctions between them in order to enact the claimed prerogative of the sovereign nation-state to control access to its territory relies increasingly on digital power. In brief, state power has become digital power. Following Josef Tebolo Ansorge (2016, 7), digital power 'provides the sovereign with a new kind of political power […] that permits to "know" each of its subjects with unprecedented detail and confidence, as well as attach a permanent identity to them.'

The turn towards technologically mediated methods of truth-production has prompted debates about a looming delegation of decision-making powers to 'machines' (Biselli 2017; Beduschi 2020; Molnar 2021; Nielson and Möller 2022). As noted in the introduction, what is problematic about such accounts – which are often based on desk research – is that they risk oversimplifying what is actually happening on the ground because they usually do not consider how identification and surveillance technologies are used in practice with what kind of effects on asylum decision-making.

Hence, I propose an STS-inspired framework allowing for more nuanced accounts and modes of critique of the use of innovative digital identification and surveillance technologies as means of truth production in asylum procedures. It starts from Lucy Suchman's (2007, 285) observation 'that the prize of recognizing the agency of artefacts need not be the denial of our own'. Rather than juxtaposing human and non-human agency, material-semiotic approaches in the tradition of actor-network theory (ANT) and feminist science studies invite us to think agency as socio-technical, distributed and relational. These three attributes implicate a conception of agential capacities – such as discretion – as the performative effect of complex, mutable and always contested socio-technical networks that comprise both human and non-human elements which are enmeshed in a 'mangle of practice' (Pickering 1995).

This understanding of practices, and particularly knowledge practices, as performative allows material-semiotic approaches to move beyond representational modes of critique of knowledge production. Instead of assuming that methods of knowledge production simply measure and more or less accurately represent realities that already exist 'out there', material-

semiotic approaches assume that knowledge practices are enabled by sociotechnical networks which help to enact – that is: bring into being and perform – the very realities they allegedly only measure and describe (Law 2008).

Instead of different perspectives, more-or-less accurate measurements, or more-or-less adequate representations of existing realities 'out there', knowledge production becomes a question of what Annemarie Mol (2002) calls 'ontological politics' – that is, a question of what kind of realities are enacted through what kind of knowledge practices and how these different versions of the real are negotiated. For if we focus on knowledge practices as primary research objects, we learn that different knowledge practices enact different versions of the real (Law 2004). Thus, reality becomes multiple –, or as Annemarie Mol (2002, 55) puts it, 'more than one – but less than many.' Consequently, the identity of any entity (including both objects and subjects) is conceptualized as fragile and mutable (Mol 2002, 43). If an asylum seeker claims, for example, during the first interview while lodging their asylum claim to come from Afghanistan, producing a *Tazkira* (Afghan ID-card) as material evidence, while the analysis of their mobile phone data shows that most of the applicant's personal contacts are located in India, the caseworker dealing with the case is confronted with two conflicting enactments of the person's country of origin. In the subsequent asylum hearing the caseworker then has to rule out one of the two as implausible. This work of coordinating and orchestrating different, potentially conflicting enactments of the real confirm Mol's (2002, 47) observation that 'if two objects that go under the same name clash, in practice one of them will be privileged over the other.' This work is needed to comply with the conventions of 'Euro-American common-sense realism' according to which reality is singular and coherent (Law 2012, 156). The point is that if reality is multiple and contested, then reality, along with the practices of knowing and establishing particular versions of it, become highly political, since 'ontological multiplicity lays bare […] the permanent possibility of alternative configurations' (Mol 2002, 164).

Hence, material-semiotic approaches call for a situated analysis of asylum decision-making procedures that focuses on the practices, in particularly the knowledge practices, facilitating the translation of an asylum seeker into a 'genuine refugee', a 'person with subsidiary protection', an 'inadmissible claim', a 'rejected case' or any other bureaucratic category. Such an analysis highlights the epistemic effects of these practices, which also always have to be thought of as ontological effects. Moreover, in context of the digitization of asylum procedures, the practices in question have increasingly become data practices, that is, practices facilitating the production, cleaning, circulation, analysis, correction, linking, interpretation of data about asylum seeker's identities, spatial movements and bureaucratic trajectories. As

suggested by material-semiotic approaches, these data practices are thought of situated, socio-technical and performative (Ruppert and Scheel 2021).

This analytical framework has important implications for the understanding of three key concepts of the literature on asylum decision-making introduced above. First, *discretion* has to be recast as sociotechnical and material, rather than as the exclusive faculty of human beings. Caseworkers processing asylum applications rely on all sorts of material devices and technologies, formal and informal rules and bureaucratic routines, institutional guidelines and architectonical parameters, as well as their own experiences and 'gut-feeling'. A sociotechnical conception of discretion accounts for 'how the constraints and affordances of these arrangements come to shape how discretion is exercised' (Ustek-Spilda 2019, 8).

Secondly, *evidence* – understood as a particular form of certified legal knowledge that is both material and discursive (Kruse 2010) – is not just 'discovered' out there. Rather, evidence is actively produced through data and knowledge practices. Results reports of speech biometrics or mobile phone data analysis need, for example, to be interpreted by caseworkers who set these results in relation to other pieces of information or mobilise them in other practices of knowledge production such as interviewing the applicant in the asylum hearing.

From this follows, thirdly, that *credibility* is not a quality inherent to asylum seeker's narratives that can be determined on the basis of fixed, standardised criteria. Rather, credibility of asylum applicants' protection stories, claimed identities and countries of origin is assembled and disassembled in credibility assessments (Magalhaes 2016). As with scientific knowledge claims, credibility assessments in the context of asylum involve the mobilisation and evaluation of 'credits and credentials' (such as ID documents, medical certificates confirming signs of torture, results reports of mobile phone analysis) as well as 'negotiations and disputes over credence and credulity' (Aradau and Huysmans 2019, 43). These negotiations and disputes happen in individual caseworker's decision-making and their 'communities of interpretation' (Affolter, Miaz, and Portner 2019) with peers as well as in subsequent legal battles in court.

In sum, a material-semiotic conception of asylum procedures calls for situated, detailed analyses of the data and knowledge practices through which asylum seekers' claimed identities and protection stories are assessed, verified and decided upon. In this way material-semiotic approaches open-up multiple points of attack for developing modes of critique that focus on the epistemic effects of the practices under investigation. Importantly, these epistemic effects always also have to be thought of as ontological effects. For if '[m]atter and meaning are not separate elements' but 'inextricably fused together' (Barad 2007, 1), then credibility

assessments, the production of evidence and ultimately 'truth' in asylum decision-making are instances of ontological politics.

Unscrewing the 'Identity Monitoring System': assembling clues into evidence

This section offers a material-semiotic reading of the three technologies of the IDM-S which is based on a close analysis of the data practices facilitating their practical use. The first technology of the IDM-S is a transliteration software converting Arab names into standardised Latin spelling. The device is meant to prevent the use of multiple spellings of names by different agencies, which usually results in a lot of confusion and friction. Hence, any applicant from an Arab-speaking country is asked at the beginning of the registration procedure to *type* their name on a keyboard with Arabic letters. A software installed on the computer *converts* the entered name into standardised Latin spelling. This certified name is used in all follow-up procedures. While caseworkers appreciated this functionality, they stressed in interviews that they would never use the so-called 'name analysis'. This feature of the transliteration software produces a list with 3-4 possible countries of origin for the person concerned, based on the assumption that particular spellings of names are more frequent in some Arabic-speaking countries than in others (BAMF 2018a, 12). Yet, caseworkers regard this function as useless because the spelling of a person's name is viewed as a weak indicator for a person's country of origin without any legal weight.

As in the case of the transliteration software, the use of biometric dialect recognition – the second IDM-S technology for determining a person's country of origin – also relies on various data practices. As means of a data *input*, all people from Arabic-speaking countries without valid ID papers and a hit in the Visa Information system (VIS) are asked to provide a speech sample that is *analysed* by an algorithm. The algorithm is allegedly able to *infer* a person's country of origin from dialects and language inflections used in particular regions. People concerned are asked to talk for two minutes into a telephone receiver which is connected to a computer. Caseworkers usually ask them to describe their hometown, or they can describe one of the pictures that lying on the desk next to the phone receiver. The software produces a report providing a list of probabilities for different dialects and languages that may be spoken by the person that provided the speech sample (BAMF 2018a, 10). The report cannot be seen by caseworkers conducting the procedure. Only the so-called 'decision-maker' (in German: 'Entscheider') can access the report via the applicant's electronic file in MARiS, the BAMF's database used for the processing of asylum applications. However, a decision-maker (hereafter:

B) reports that, speech biometrics 'only offer a rough compass' and would be 'too imprecise to solve the problematic cases.' B cites the example of *Daraa*, a Syrian town close to the Jordanian border: 'People from Syria are granted refugee status, people from Jordan are not because Jordan is considered a safe country of origin. Surprise: everyone claims to come from Daraa. With speech biometrics I can maybe establish that the person speaks Levantine Arabic, but this does not help me at all to verify whether the person comes from Daraa or not.'

In case of the extraction and analysis of asylum seeker's mobile phone data, a division of labour between the police and staff of the BAMF has been established at the reception centre in Berlin. All people without a hit in the VIS who do not provide any ID documents are searched by the police. If officers find a mobile phone they ask the person concerned to sign a consent form and unlock their phone so that the phone can be *connected* – by a BAMF employee – to a device which *extracts* and *analyses* various types of data for information about the person's identity and country of origin. While the signing of a consent form suggests that asylum seekers decide voluntarily whether they hand over their mobile devices to authorities, the measure is actually mandatory as it is covered by the 'obligation to cooperate' [Mitwirkungspflicht] with authorities in attempts to establish a person's identity, as stipulated by §15(6) of Germany's asylum law. Hence, mobile phone data may be extracted and analysed against the applicant's will. However, most applicants agree to the procedure because they are informed that a refusal might impact negatively on the assessment of their asylum application.

During my visit in November 2019, BAMF staff used the stand-alone *MSAB kiosk* for data extraction and analysis. Frontline staff reported that data extraction can take between 5 minutes and several hours, depending on the amount of data stored on the phone. As noted in the introduction, data extracted from the phone are extensive and include country codes of any contact as well as incoming and outgoing calls and text messages, or location data from photos and apps (Biselli and Beckmann 2020, 18). The software of the MSAB kiosk *aggregates* this data in a results report, which is *stored* in a 'data safe' and can only be *accessed* by the decision-maker handling the case after a senior colleague with the juridical qualification of a judge has authorised its use by confirming that there is no less invasive measure to establish the applicant's country of origin (BAMF 2018b).

Besides metadata on the applicant and their phone, such as type and brand of the mobile phone and date of its first use, the report contains various tables and pie charts summarizing potential information about the applicant's country of origin, such as the five most relevant countries for incoming and outgoing calls and text messages, the languages used during calls, browser data on webpages based on country-specific domain endings as well as geodata

inferred from photos stored in the phone. There is also a map showing exact locations of where photos were taken, using pins as known from other digital map applications as markers. However, caseworkers emphasise in interviews that mobile phone analysis is also only helpful for establishing an applicant's country of origin in a minority of cases. F, a senior officer, summarizes the situation as follows: 'The problem with these mobile phone reports is that they are mostly not meaningful. […] If the phone was bought in Greece we will not find any geodata indicating a country of origin. There also happen mistakes during data extraction, with the effect that we have no informative results but indicators pointing to several potential countries of origin.' This observation is confirmed by official figures. Accordingly, mobile phone analysis only generates meaningful results in one third of cases in which data extraction was successful. In about 30% of cases the reported results confirmed the claimed country of origin of the applicant and 'only in about 2% of the cases the claimed identity [of the applicant] could be refuted' (Deutscher Bundestag 2021, 28).

Moreover, the results of speech biometrics and mobile phone analysis do not speak for themselves. They need to be interpreted and validated by caseworkers during the asylum hearing, as decision-makers repeatedly underscore in interviews: 'Speech biometrics do not count as conclusive evidence, but only provide a rough indicator about an applicant's country of origin. They only offer clues that can be used to confront and corner a person in the hearing.'[3] This stance is in line with official guidelines and training materials which emphasise that the IDM-S technologies generate only 'indicators and clues that may contribute to clarifying [an applicant's] identity. However, the establishment of identity continues to be accomplished through the overall assessment of all insights available to the decision-maker. If these tools generate indicators suggesting a different country of origin than the one claimed by the applicant, this needs to be clarified in the hearing. By confronting the applicant [with the results of the IT-tools] in the [asylum] hearing the applicant has to be given the opportunity to resolve any contradictions or uncertainties' (BAMF 2018a, 4).

It is this distinction between 'clues' and 'evidence' with juridical value which allows caseworkers to delegate the technologies of the IDM-S to the inferior status of 'auxiliary tools' or a 'welcome support'.[4] In this view the BAMF's new IT-tools are only able to produce 'useful clues' that need to be translated into conclusive juridical evidence in the asylum hearing by human caseworkers who accomplish this translation work by confronting applicants with pieces of information offered by the IDM-S technologies and by asking 'origin questions' on very

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[3] Interview with decision-maker, March 2019.
[4] Quotes from interviews with senior officer (March 2019) and decision-maker (May 2021).

specific country of origin information. Contrary to the critique of a looming delegation of decision-making powers to machines, the introduction of the IDM-S technologies allows caseworkers to even strengthen their position as the epistemic authority in asylum decision-making procedures.

This is also confirmed by R's account of one of the few cases in which mobile phone analysis contributed to refuting the claimed country of origin of an applicant. In this case a woman claimed to belong to the politically persecuted Armenian minority of Turkmenistan. She insisted that she had never been in Armenia, although she was married to a man from Armenia. R recounts: 'We knew: this will be a difficult hearing. In such cases it makes sense to ask the applicant in the beginning to switch off their phone. If the applicant then takes out the phone we confiscate it and bring it to data extraction. In this case it was like this and the phone was analysed. The woman had denied having any contacts in Armenia or to ever have been there. But the phone analysis suggested the opposite: many contacts in Armenia, but none in Turkmenistan.' This finding confirmed R's hunch that the woman was not from Turkmenistan. He ordered a Turkmen interpreter and asked the woman many origin questions about Turkmenistan: 'What is the name of the acting president? What was the name of the previous president? How was he called? The answer is *Türkmenbaşy*. What does this mean? It means "leader of the Turkmen". A personality cult was built around the previous president, that should be known by anyone. Subsequently I could continue with questions about culture or geography: Where is *Ashgabat* [the capital of Turkmenistan]? What is *Dutar*? Or what is *Ghijak*? These are both musical instruments used in Turkmenistan.' However, only towards the end of the hearing R confronted the woman with the results of the mobile phone analysis: 'It is better to let them talk first and see what they come up with. But towards the end I would confront them and ask: "OK, if you are from Turkmenistan, how do you explain that you have so many contacts in Armenia?"'

What R's account shows is that mobile phone analysis results shape both the sequence and the content of asylum hearings. R first entices the woman to talk, asking origin questions which are informed by the clues offered by the mobile phone analysis. Yet, it is only towards the end of the hearing that R directly confronts the woman with results of the mobile phone analysis suggesting that she does have many contacts in Armenia. The underlying objective of this strategy is to get the woman entangled in contradictions as a way to disassemble the credibility of her claimed country of origin and the overall plausibility of her story of political persecution.

However, if applicants insist on the truthfulness of their own accounts – as in the woman's case – decision-makers will have to hierarchize between different versions of the real. They have to engage in ontological politics by assembling and clustering clues into conclusive evidence that allows them to prioritize one version of the real over alternative configurations. Nevertheless, caseworkers are aware that they have to take decisions under conditions of uncertainty and imperfect knowledge. A senior officer openly admits 'you have to decide on the basis of the knowledge and the non-knowledge you have. Many [decision-makers] are hesitant, but often you cannot find out more and what is needed in such situations is decisiveness.'[5] Ultimately, decision-makers have to write a decision letter in which they translate evidence into legally meaningful arguments which allow to prioritize one version of the real over another one by discarding one of the two as implausible and/or contradictory and thus not credible.

'In the end I would say that it imposes itself… that there are so many clues that it imposes itself. Personally, I always look for three arguments. Once I have these, I bring the hearing to an end', summarises R the rationale of his decision-making. In his decision letter on the woman's case, R rejected her application for asylum as unfounded because he concluded that the woman was deceiving about her country of origin for three reasons: 'She does not speak Turkmen. She could not explain where the capital of Turkmenistan is located although she claims to have lived there since birth. Knowledge about the country is lacking completely. Considering the results of mobile phone data analysis it must be assumed that she is a citizen of Armenia' (Verwaltungsgericht Berlin 2021a, 5–6).

Just like the translation of clues into conclusive evidence, this 'legal storytelling' (Kruse 2012) allows caseworkers to retain their position as an epistemic authority in asylum decision-making procedures. Evidence produced by means of identification technologies like speech biometrics or mobile phone data analysis does not speak for itself. It must be 'aligned with the law and be made to deliver answers to the questions that are relevant in court' (Kruse 2012, 301). In sum, the analysis of the data practices facilitating the practical use of the three IDM-S technologies demonstrates that the critique of a looming delegation of decision-making powers from humans to machines is misplaced. The above analysis suggests, quite to the contrary, that caseworkers can even strengthen their position as an epistemic authority in decision-making procedures by framing themselves as 'skilful practitioner[s] of a certain craft' (Geuss 2001, 38). This craft is twofold. It resides in the capacity to interpret the results reports of the three IDM-S technologies and to translate first clues and inconclusive indicators generated by these

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[5] Interview with senior officer, November 2019.

technologies into juridical meaningful evidence through specific questioning techniques as well as the craft of legal storytelling.

Epistemic Domination by Data Extraction: governing untrustworthy subjects

If the influential critique of the digitization of asylum procedures implicating a delegation of decision-making powers from human to machines is beside the point this raises an important question: What kind of theoretical resources might allow scholars to develop more nuanced analyses and more persuasive lines of critique of the turn towards digital technologies in asylum procedures as means of truth production? This section outlines one possible answer by combining material-semiotic approaches with Miranda Fricker's (2007) work on *epistemic injustice* in order to discern a particular form of *data colonialism* (Couldry and Mejias 2019) as the underlying logic of the BAMF's digitized asylum procedures. In general, the notion of data colonialism refers to a new form of capitalist appropriation of human life through data that 'combines the predatory extractive practices of historical colonialism with the abstract quantification methods of computing' (ibid, 337). In combination with the notion of epistemic injustice, the following analysis allows to identify a particular kind of data colonialism. Based on and legitimised with authorities' denial to acknowledge asylum seekers as subjects capable of speaking the truth this form of data colonialism facilitates the epistemic domination of asylum seekers by means of data extraction.

As outlined in the first section, asylum procedures are pervaded by a 'culture of disbelief' (Affolter 2022; Borrelli 2022; Bohmer and Shuman 2018; Jubany 2017; Griffiths 2012). This institutionalised distrust informs a range of routinized practices facilitating asylum application and decision-making procedures at the reception centre in Berlin. For example, any asylum seeker without valid ID documents is strip-searched by the police at an early stage of the registration procedure, based on the assumption that asylum seekers may hide material evidence about their identity or country of origin, such as official documents or a mobile phone containing data that may provide clues about their origin. If an applicant does provide official documents or such documents are discovered by the police, they are brought to a special unit which checks them – supported by UV cameras, magnifying glasses and other technical equipment – for signs of falsification or manipulation. Since 2016 asylum seekers are also fingerprinted at an early stage of the registration procedure so that their biometric data can be used for searches in various national and European databases to retrieve information about possible previous asylum or visa applications or other encounters with authorities (cf. Scheel

2021). The measure is also guided by the concern that asylum seekers may conceal important information, such as previous asylum applications in other countries, or that they lie about their country of origin.

This culture of suspicion has also been materially inscribed an institutionalised in the asylum procedure through the use of technologies like mobile phone data analysis. In the context of the use of digital technologies this institutionalised distrust epitomized by R's likening of asylum seekers without any ID document or hit in a biometric database to a 'blank sheet' [German: "*unbeschriebenes Blatt*"]. For R and his colleagues, a blank sheet refers to a person whose own accounts cannot be validated through 'objective' evidence, such as ID documents or a hit in Eurodac.[6] Put differently, asylum seekers are – by default – disbelieved and their own accounts are – unless they are backed up by material evidence like a passport – literally considered as without any substance. It is this initial denial of credibility which justifies that asylum seekers own accounts have to subjected to all kinds of credibility tests. In this way, the culture of disbelief enacts asylum seeker's own accounts as suffering from a credibility deficit, as stories-to-be-proven or disproven on the basis of alternative sources of truth production that are able to offer what is considered as 'objective' evidence.[7]

While it may be argued that this institutionalised distrust is justified due to real cases of 'asylum shopping', 'identity obfuscation', 'document fraud' etc., the subjection of all asylum seekers to a generalised suspicion of resembling 'vile liars and truth distorters' (Griffiths 2012) constitutes an *epistemic injustice* because asylum seekers' 'capacity as a subject of knowledge' is denied by default (Fricker 2007, 5). In practice, every asylum seeker is subjected to what Fricker understands as 'testimonial injustice', the classical form of epistemic injustice in which 'a hearer wrongs a speaker in his capacity as a giver of knowledge, as an informant' (ibid). The credibility deficit that caseworkers like R attribute to asylum seekers is based on 'identity prejudice', that is, a 'prejudice on the hearer's part [that] causes him to give the speaker less credibility than he would otherwise have given' (Fricker 2007, 4). These prejudices are rooted in stereotypes 'against people qua social type' so that a short-hand definition for testimonial injustice may be 'identity-prejudicial credibility deficit' (ibid).

In the context of asylum procedures, the credibility of asylum seekers is cast into doubt *because* they apply for refugee status, a relatively privileged legal status in the context of highly restrictive border and migration regimes. This institutionalised distrust is often coupled with a (post-)colonial racism which explains why asylum seekers are seen as 'suspect subjects' who

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[6] Interview with decision-maker, June 2021.
[7] I would like to thank Rogier van Reekum for highlighting this point to me.

are 'incapable of telling the truth' (Lorenzini and Tazzioli 2018, 72). Due to this epistemic injustice, the injunction to speak the truth – which Foucault (2015) has unearthed as an essential mechanism of power in Western societies – becomes ineffective in asylum procedures. Asylum hearings become 'confession[s] without truth' (Lorenzini and Tazzioli 2018, 73), understood as a technology of power which calls for and builds on the use of alternative means of truth production. Since asylum seekers are denied the status of subjects capable of speaking the truth their accounts have to be validated and substantiated by all sorts of tests and alternative mean of truth production generating 'objective' material evidence in order to either validate their own accounts as 'credible' or to dismiss them as 'implausible'. In this way, the turn towards digital identification technologies inscribes a profound epistemic injustice in asylum procedures as technologies like speech biometrics or mobile phone data analysis devalue and potentially replace migrants' own accounts as a source of truth.

Moreover, the framing of asylum seekers as subjects incapable of telling the truth is also mobilised to justify the extraction of data from their bodies and mobile devices. While asylum seekers feature as co-producers of data in the human-machine configurations of the three IDM-S technologies, the idiom of co-production is partially misleading because asylum seekers do not 'donate' or 'provide' their data voluntarily. The fact that asylum seekers are routinely strip-searched by the police, or tricked by caseworkers during the asylum hearing, to get hold of their mobile phones indicates that *data extraction* is a more adequate term for describing the practical modalities of data production. As explained above, §15 of Germany's Asylum Law makes it mandatory for asylum seekers to cooperate with authorities in the establishment of their identity and country of origin. This 'obligation to cooperate' includes the requirement to provide biometric data and to hand over any ID documents or, if these are not available, any mobile device.[8] Importantly, the BAMF's guidelines on mobile phone analysis instruct caseworkers to proceed with data extraction also in case of missing consent (BAMF 2018b, 2). Hence, the systematic attribution of a credibility deficit to asylum seekers justifies compulsory data extraction of biometric and sensitive personal data from any person applying for asylum.

What follows on data extraction is the *epistemic domination* of asylum seekers by means of these data. Caseworkers like R first 'let people talk' to entice them into statements that may contradict the findings of digital identification technologies like mobile phone data analysis, particularly regarding their claimed country of origin. However, as R explains, authorities also

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[8] While I cannot expand on this point due to space constraints, such mechanisms for manufacturing 'informed consent' resonate with findings on voluntariness and consent as ambiguous concepts in contexts of 'voluntary returns' (Webber 2011) and forensic DNA databases (Machado and Silva 2015).

use the results to *make people confess* through a display of complete knowledge: 'Applicants usually do not know what kind of data we extract from their phone. Hence, sometimes they begin to provide more honest answers once you confront them with the findings [by asking]: Why have you only called your country of origin four times since you are in Germany? What did you do in the Netherlands? Who are the five contacts you have there? By asking such specific questions you create the impression that you already know everything anyway and then people start to open up.'

In general, asylum seekers will only be believed if their claims are confirmed by the indicators generated by digital identification technologies. If the results contradict asylum seekers' own accounts, the applicant will be given a final opportunity to provide an explanation for any incoherencies or contradictions. Ultimately, it is however up to the decision-maker if they accept the explanation provided as 'plausible', or rather decide to prioritize the results of mobile phone analysis as conclusive evidence about the applicant's 'real' country of origin in their legal storytelling. As R – and subsequently a judge of Berlin's administrative court – did in the case of the woman claiming to belong to the Armenian minority of Turkmenistan: 'In one crucial point, her relations to Armenia, she provided false details. In the additional hearing on [...], she stated explicitly to never have been in Armenia and to have no relations to Armenia. The analysis of her mobile phone data showed, in contrast, a result of more than 20 contact persons in Armenia' (Verwaltungsgericht Berlin 2021a, 5). Based on this judgment, the court confirmed the rejection of the woman's application for asylum as 'obviously unfounded' as well the deportation order issued by the BAMF.

What the case illustrates is that the epistemic domination of asylum seekers by means of data extraction entails significant degrees of epistemic and ontological violence. If digital identification technologies like mobile phone data analysis produce any results considered as meaningful, caseworkers will mobilise them as veritable informants which are supposed to speak on behalf of – and testify against – the subject concerned. It is hoped that the result reports of these digital spies will disclose information about asylum seekers' country of origin, their travel history and their identity, no matter if the subject concerned consents to these revelations or not (Scheel 2021). Importantly, this epistemic violence implicates ontological violence because asylum seekers may have to contest the identity and country of origin claims that are shared by these informants which are seen – as in the case of the woman – as disclosing the official version of reality. In sum, the use of digital identification technologies as means of truth production in asylum procedures thus facilitates a particular kind of data colonialism that follows a logic of *epistemic domination by data extraction*.

However, neither this form of epistemic domination, nor the attribution of a credibility deficit imply that asylum seekers are bereft of any capacity to act. Since the human-machine configuration facilitating their epistemic domination rely on data practices that feature asylum seekers as indispensable accessaries, the latter do have the capacity to silence the informants that may be mobilised against them, or turn them into allies of their own. They can mimic dialects when providing their sample for speech biometrics. They can claim to not possess a phone. Or they can buy or borrow a relatively new phone that does not provide any clues about their country of origin and travel history. These practices seem to be common, as caseworkers confirm.[9] Moreover, asylum seekers may engage in legal storytelling themselves by providing overly coherent, detailed accounts, or by exaggerating when talking about their reasons for protection to satisfy perceived plausibility and credibility criteria (Bohmer and Shuman 2018; Thomas 2006).

While caseworkers tend to interpret such data practices of *embellishing, exaggerating, silencing, creating noise* etc. as a confirmation of the legitimacy of their suspicion-by-default approach, such practices are provoked by highly restrictive asylum regimes, the systematic subjection of asylum seekers to epistemic injustice and related experiences of being mistrusted and disbelieved. Rebecca Hamlin (2018) speaks in this context of a 'credibility paradox'. In brief, the culture of disbelief and the related pressure to produce credible accounts that are deemed coherent and plausible entices asylum seekers – including those with legitimate claims – to embellish their stories, to stretch and bend the truth in order to persuade decision-makers of their credibility. Likewise, restrictive border regimes and safe third country rules oblige asylum seekers to use falsified passports and to erase any traces of their travel history in order to bring themselves in a position to apply for asylum in the first place. Authorities usually regard such 'strategic uses of deception' (Bohmer and Shuman 2018, 9) as a confirmation of the need for more and better surveillance technologies allowing them to scrutinize and question asylum seekers' own narratives in credibility assessments on the basis of alternative sources of evidence (Scheel 2022). However, from asylum seekers' viewpoint practices like providing a borrowed phone with little or no data, or the completion of memory gaps with invented details as a way to provide a persuasive, coherent protection story constitute attempts of achieving *epistemic restoration* in order to escape epistemic domination and violence facilitated by the use of intrusive identification and surveillance technologies.

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[9] Two Interviews with decision-makers, June 2021. Similar assessments by other BAMF employees interviewed in March and November 2019.

Asylum seekers try to achieve epistemic restoration through two kinds of practices. On the one hand, they engage in 'epistemic vigilance' (Origgi 2012) by adopting a vigilant attitude towards the information they receive and, even more importantly, the information they disclose. On the other hand, experiences of epistemic injustice and violence also provoke practices of *epistemic subversion* like the use of alias personalities (the use of different identity claims in encounters with authorities), or the provision of doctored mobile phones containing data which confirm an applicant's claimed country of origin (Rath 2017). Importantly, such practices should not simply be discarded and stigmatised as instances of fraud and deception, as suggested by dominant discourses. Instead, we should take seriously the political claims for epistemic justice that are carried by such practices. For if we concede with Miranda Fricker (2013) that epistemic justice resembles a constitutive condition of non-domination then practices aiming at epistemic restoration have to be seen as attempts to realise political freedom.

Conclusion

This article has analysed how the introduction of digital identification technologies like speech biometrics and mobile phone data analysis as alternative means of truth production in asylum procedures affects decision-making on asylum. Based on STS-inspired conceptual framework, I have shown that rather than looming delegation of decision-making powers to machines the introduction of digital technologies implicates shifts in existing human-machine configurations. Nevertheless, human caseworkers are able – due to the distinction between vague clues and legally-relevant evidence – to even strengthen their position as an epistemic authority in decision-making procedures. To address the follow-up question on what kind of conceptual resources may allow social scientists to develop more nuanced analyses and more persuasive lines of critique of the turn towards digital technologies in asylum procedures, I have proposed to combine material-semiotic approaches with works on epistemic injustice and data colonialism. This conceptual framework has allowed me to show that the introduction of digital identification technologies as alternative means of truth production in asylum procedures rests on the systematic ascription of a credibility deficit to asylum seekers whose accounts are thus enacted as 'stories-to-be-tested'. Since asylum seekers are denied the status of subjects of reliable knowledge producers authorities justify and use alternative means of truth production that are capable to generate 'objective' indicators which can be translated into legally conclusive evidence about asylum seekers' 'true' identities and countries of origin by caseworkers. This turn towards digital technologies that tap asylum seekers' bodies and digital

transactions as alternative sources of truth production implicates a form of data colonialism that enables the epistemic domination of asylum seekers by means of data extraction.

However, the multiplication of sources of truth and knowledge production in asylum decision-making procedures also implicates ontological politics in which different versions of the real have to be negotiated and in which asylum seekers themselves feature as non-negligible actors with the capacity to restore epistemic justice by engaging in practices aiming at epistemic vigilance or subversion. Importantly, the question of how to achieve epistemic justice, understood as a precondition for political freedom, raises a more fundamental question, that scholars working in the tradition of data feminism (D'Ignazio and Klein 2020) and data justice (Dencik, Hintz, and Cable 2019) insist on asking: Whether technologies such as the BAMF's IDM-S systems should exist after all? Since speech biometrics and mobile phone data analysis institutionalise epistemic injustice within decision-making procedures on asylum while facilitating the epistemic domination of asylum seekers by means of data extraction the answer must be a resounding 'no'.

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