

Digital–Nondigital Assemblages: Data, Paper Trails, and Migrants’ Scattered Subjectivities at the Border

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This paper argues that the border regime works through entanglements of digital and nondigital data and of “low-tech” and “high-tech” technologies. It suggests that a critical analysis of the assemblages between digital and nondigital requires exploring their effects of subjectivation on those who are labeled as “migrants.” The paper starts with a critique of the presentism and techno-hype that pervade research on borders and technology, and points to the importance of analyzing historical continuities and ruptures in the technologization of the border regime. It then explores the assemblages of high-tech and low-tech technologies used for controlling mobility and investigates the imbrication of digital and nondigital records that migrants need to deal with and show not only at the border but throughout their journeys and, eventually, to obtain refugee status. The third section discusses migrants’ tactical uses of digital and nondigital records, their attempts to erase or reconstruct traces of their passages, and states’ oscillation between politics of identification and nonidentification. Finally, the fourth section questions the image of the “data double” and contends that, rather than a discrete digital subject, migrants’ digital traces generate scattered digital subjectivities that migrants themselves cannot fully access.

Cet article affirme que le fonctionnement d’un régime frontalier entremêle des données numériques et non numériques et des technologies « low-tech » et « high-tech ». Il suggère qu’une analyse critique des assemblages de numérique et non numérique nécessite d’explorer leurs effets de subjectivation sur ceux que l’on qualifie de « migrants ». L’article commence par une critique du présentisme et de la hype technologique, omniprésents dans la recherche sur les frontières et la technologie, en soulignant l’importance de retracer la généalogie de la technologisation du régime frontalier. Ensuite, il s’intéresse aux assemblages de technologies high-tech et low-tech employés pour contrôler la mobilité, mais aussi l’imbrication des dossiers numériques et non numériques que les migrants doivent gérer et montrer à la frontière, puis tout au long de leur périple avant de finalement obtenir le statut de réfugié. Une troisième partie examine les tactiques d’utilisation des dossiers numériques et non numériques des migrants, leurs tentatives d’effacement des traces de leur passage et l’oscillation de l’État entre une politique d’identification et de non-identification. Enfin, l’article s’interroge sur l’image du « problème des données » et affirme qu’au lieu d’un sujet numérique discret, les traces numériques des migrants génèrent des subjectivités numériques

éparpillées auxquelles les migrants eux-mêmes ne peuvent pas pleinement accéder.

Este artículo argumenta que el régimen fronterizo funciona a través de redes de datos tanto digitales como no digitales y de tecnologías de «baja» y de «alta tecnología». El artículo sugiere que un análisis crítico de los conjuntos situados entre lo digital y lo no digital requiere explorar sus efectos en materia de subjetivación sobre aquellas personas que son etiquetadas como «migrantes». El artículo comienza con una crítica del presentismo y la techno-exageración que impregnan la investigación en materia de fronteras y tecnología y señala la importancia de efectuar una investigación genealógica de la tecnologización del régimen fronterizo. A continuación, el artículo explora los conjuntos tecnológicos de alta y baja tecnología que se utilizan para controlar la movilidad e investiga la imbricación de los registros digitales y no digitales que deben afrontar los migrantes, así como de los registros que deben mostrar, no solo en la frontera sino también a lo largo de su viaje y al final de su viaje para obtener el estatus de refugiado. La tercera sección de este artículo debate el uso táctico que llevan a cabo los migrantes con relación a los registros digitales y no digitales, así como sus intentos por borrar rastros de sus recorridos y la oscilación del Estado entre la política de identificación y la política de no identificación. Por último, la cuarta sección cuestiona la imagen del «duplicado de datos» y sostiene que las huellas digitales de los migrantes generan subjetividades digitales dispersas, en lugar de generar un sujeto digital discreto, a las que los propios migrantes no pueden acceder plenamente.

Introduction

Iris-scan and fingerprinting machines, algorithm-driven systems, infrared cameras, and drones are some of the technologies that are part of the daily activities of border guards, humanitarian actors, and state authorities in charge of controlling and identifying migrants at the border and in refugee camps. What states have described as a “refugee crisis” has been seized by private companies as an opportunity to sell high-tech products to international agencies and state actors apt at enforcing border controls, confining migrants, and streamlining the asylum procedure. Overall, the border regime is depicted by journalists and scholars as digitalized and technology-driven. However, such a narrative partly clashes with what can be observed on the ground and flattens the technologization of the border regime into a dehistoricized present. Arguing this does not mean dismissing the incorporation of digital technologies in migration governmentality, nor is it simply a matter of highlighting the discrepancies between official documents and programs and the actual implementation of border technologies. Rather, this paper investigates the persistence of the nondigital and the assemblages of digital and nondigital data in migration governmentality and the ways in which it affects migrants, generating scattered subjectivities. Echoing [Perret and Aradau \(forthcoming\)](#), we understand “data” as encompassing “digital, biometric, statistical, and transactional data” as well as “papers, documents, and qualitative data extracted from migrant testimonies and so-called debriefings.”

The article develops a twofold argument. First, it contends that the border regime works through entanglements of digital and nondigital records. In order to investigate such imbrication, it is key to challenge the presentism that underpins both academic and nonacademic debates on migration and technology and to unsettle the boundaries between high-tech and low-tech technologies ([Bonelli and Ragazzi 2014](#); [Davidshofer, Jeandesboz, and Ragazz 2016](#)). Second, the paper explores the

effects of subjectivation that the imbrication of the digital and nondigital has on those who are labeled as “migrants.” We ask: How are migrants affected by the assemblage of digital and nondigital records that states produce and store about them? To what extent do migrants twist these digital and nondigital records against the state? We pay attention to both the subjectivities generated through data extraction and circulation and the impact that digital–nondigital assemblages have on migrants’ journeys and legal status. We argue that more than a coherent “data double,” to be at stake is a multiplicity of fragmented digital subjectivities.

The paper contributes to critical migration and critical security scholarship on the transformations of borderwork through technology (Jacobsen 2015; Scheel 2019; Amoores 2021; Leese et al. 2022) and the digitalization of control enhanced through database interoperability (Broeders and Hampshire 2013; Bigo 2020). It does so by shedding light on the uneven functioning of borders, and how border procedures work differently from site to site. In line with recent works that have insisted on the continuum of digital and nondigital technologies, we are interested in showing that the history of the border regime is also the history of “different kinds of paper-based infrastructures, mediating emerging imaginaries of refugee governance and humanitarian action” (Seuferling and Leurs 2021, 679). The paper also intervenes in international political sociology debates by challenging a monolithic understanding of the border and, relatedly, of the state, and by drawing attention to the heterogeneity of bordering practices. As Coleman and Stuesse observe, a critical investigation of border practices should refrain from black boxing the state and “posing state power as stable” (Coleman and Stuesse 2016, 426): Instead of positing borders as lines or as entities and asking how these are controlled by states, we investigate border-making practices by looking at how the assemblages of digital and nondigital records generate scattered digital subjectivities.

Methodologically, the paper draws on fieldwork carried out in Italy and Greece between 2018 and 2023 and the analysis of governmental documents and statements. Fieldwork encompassed participant observation and semi-structured interviews with authorities, national and international NGOs, activists, lawyers, and migrants in several (external and internal) EU border areas. Specifically, we visited the islands of Lesbos in Greece and of Lampedusa and Pantelleria in Italy—all of which represent established or emerging junctures and sites of first arrival at the EU southern external border. We also conducted research at the internal borders between France and Italy and between Italy and Slovenia, which are crossed by migrants¹ coming from the so-called Balkan and Mediterranean routes who are trying to reach Northern European states. Such a multisited approach, alongside a focus on less “visibilized” sites (as well as hyper-visibilized and spectacularized “hotspots” like Lampedusa and Lesbos), allowed us to unveil the heterogeneity of bordering practices at play within and across EU states and foreground the uneven and inconsistent nature of “digitalized” borders. This, in turn, led us to problematize state discourses around the technologization of “Fortress Europe” and to avoid becoming “unwitting accomplice[s] to the spectacular task of broadcasting [. . .] border enforcement as the perfect enactment of ever more seamless and hermetically sealed exclusionary barriers” (De Genova 2013, 255).

The main issues discussed in this paper emerged in and through conversations and collaborations with immigration lawyers, activists, and the migrants they support. Lawyers and activists were interested in understanding (and also helped us to understand) how border violence works through identification practices featuring digital and nondigital data. Knowledge asymmetries between states, on the one hand, and migrants and those who support them, on the other hand, were recur-

¹Throughout the paper, we use “migrants” and “refugees” interchangeably, as we consider these as state categories that are used to classify, select, and exclude people whose presence and mobility are deemed to be a “problem.” We use “refugees” and “asylum seekers” to refer to people who are in the asylum procedure and who, therefore, are dependent on humanitarian actors.

ring topics in our conversations with them. Migrants themselves also raised questions about the implications of identification practices, especially fingerprinting, for their migratory projects and lives. Our paper and analysis are underpinned by these concerns. As such, we do not claim to take a neutral stance in relation to the issues we discuss. As [Nicholas De Genova \(2013, 252\)](#) incisively put it, migration researchers are part of and participants within the field of struggle: “there is no neutral vantage point” (see also [Davies, Isakjee, and Obradovic-Wochnik 2022](#)). Accordingly, when discussing migrants’ tactical appropriations and twisting of technologies of control, we limit our analysis to a few examples, being careful not to reveal new information that could harm people on the move.

The paper is structured in four steps. It starts with a critique of the presentism and techno-hype that pervade research on borders and technology, pointing to the importance of grasping continuities and ruptures with the past in relation to the technologization of the border regime. The second section explores the assemblages of high-tech and low-tech technologies used for controlling mobility, and the imbrication of digital and nondigital data that migrants need to deal with and show throughout their journey. The third section discusses migrants’ tactical uses of digital and nondigital records, their attempts to erase traces of their passages, and state’s oscillation between politics of identification and nonidentification. It also highlights how digital and nondigital records are used by authorities to discredit migrants’ claims and avoid responsibility, pointing to the asymmetries of credibility that are embedded in the border regime. The final section questions the image of the “data double” and contends that migrants’ digital traces generate scattered digital subjectivities that migrants themselves can never fully access.

Undoing Presentism

In order to critically engage with digital–nondigital assemblages, it is key to expose and undo the presentism that sustains debates on techno-humanitarianism and technological borders. Indeed, the techno-hype that pervades political debates about digitalized borders is inflected by a dehistoricizing approach, which presents border technologies as something that popped up and escalated recently. Such an approach erases the partial continuities between identification and registration technologies used at the border for classifying and selecting unruly movements. As [Didier Bigo](#) has aptly noted, contemporary border security practices are “rooted in previous practices” ([Bigo 2006, 49](#)). Scholars have advocated for algorithmic governance to improve humanitarian logistics in camps ([Dekker et al. 2022](#)), for fairer automated decision systems in the asylum procedure ([Jasmontaite-Zaniewicz and Zomignani Barboza 2021](#)), and for technological innovation that empowers and benefits refugees ([Betts, Bloom, and Weaver 2015](#)). A growing literature has foregrounded the risks of using AI-driven tools, exposing the potential pervasive tracking of asylum seekers and enhanced surveillance in refugee camps ([Latonero, Poole, and Berens 2018](#); [Madianou 2019](#); [Molnar 2021](#)). While concurring with these concerns, we suggest that a critical analysis of digital borders involves retracing partial continuities between digital and nondigital technologies used nowadays and in the past.

While it is true that the so-called “refugee crisis” in 2015 has boosted a *race to tech* in refugee humanitarianism, the systematic use of technologies at the border has a longstanding history ([Boutang 1998](#); [Torpey 2018](#)), which should be situated within a broader context of state bureaucracies aimed at producing and identifying citizens, workers, and foreigners ([Denis 2006](#)). As historian [Adam McKeown](#) has pointed out in his book *Melancholy Order* (2008), the emergence of border controls in the nineteenth century went in parallel with, and was consolidated through, the development of “photography, fingerprinting and anthropometric measurement,” due to the need to categorize and classify people’s identity: And, yet, “identification

[. . .] was of little significance if it could not be embedded in an institutional memory of retrievable data” (McKeown 2008, 12). Indeed, alongside identification technologies, data-exchange activities trace back to the mid-nineteenth century. McKeown’s point that the emergence of the global border regime could not be disjoined from the use of identification technologies leads us to question the very meaning of “technology” and “datafication” (Mayer-Schonberger and Cukier 2013). At the same time, “individuals themselves had to repeatedly reproduce their recorded identity in order to obtain institutionalized benefits and rights” (McKeown 2008, 12).

Technological identification was never a self-standing procedure, nor was it sufficient to demonstrate someone’s identity: Rather, foreigners and migrants have been constantly interpellated and requested to prove that their identity matched with the one stored in national records and databases. Moreover, the rolling out of identification technologies has historically been a contested matter and has been inflected in racialized terms: The use of biometrics was challenged in France in the second half of the nineteenth century, since it was “linked to documenting and indexing criminal [. . .] as well as the colonised population” (Keshavarz 2016, 125), and the use of photography for identification purposes was trialled with the Page Act (1875) on Chinese migrant women in the United States, as they were perceived as a sexual threat (Luibheid 2002). As Eithne Luibheid reconstructed, if Chinese women “did not answer the questions the same way, or did not match the photographs, or carried paperwork that was incompletely filled out, they were liable to be detained” (Luibheid 2002, 43).

By drawing attention to the longstanding history of border technologies, it emerges that we are confronted with a series of transformations—from nondigital to digital—as well as with the persistent entanglement between digital and nondigital. Such a history can be retraced through a genealogical approach to border technologies, which draws attention to the continuities and ruptures between past and present. Indeed, a genealogical approach does not retrace a totalizing history: Far from restoring an “unbroken continuity that operates beyond the dispersion of forgotten things,” genealogy identifies “the accidents, the minute diversions” (Foucault 1978, 147). Likewise, it “does not totalize the border” and, to the contrary, it invites us to investigate its functioning from the point of view of the heterogeneity and unevenness of bordering practices (Walters 2002, 576). Although genealogy per se is not the main purpose of this piece, it enables us to highlight the imbrication of the digital and nondigital over time and the partial continuum between high-tech and low-tech technologies.

As Seuferling and Leurs note, “to avoid technological exceptionalism, more attention is needed to historical lineages and precedents” (Seuferling and Leurs 2021, 684). This implies, first, unsettling the binary opposition between digital and nondigital and observing how historically these have been mutually intertwined. Second, it is a matter of showing how, on the one hand, the datafication of mobility has historically co-existed with the consolidation of the global border regime and, on the other hand, how nondigital data and records are still central to mobility governance. Ultimately, technologies of different kinds (censuses, passports, and identification cards) have been necessary for states, as John Torpey eloquently argued, to “develop the capacity to embrace their own citizens” (Torpey 2018, 2) and to expropriate from people “the legitimate means of movement” (4). In this paper, as stressed in the Introduction, we are interested in undoing presentism in order to foreground the persistence of nondigital data and records and the assemblages between digital and nondigital that are at the core of migration governmentality. In order to do this, we shift attention from the border as such toward bordering practices.

Excavating Digital–Nondigital Assemblages

Destabilizing the binary opposition between high-tech and low-tech technology enables exploring the entanglements between digital and nondigital data and the blurred boundaries between the two. Indeed, as we illustrate further down, in order to identify and register migrants, authorities often use routinized technologies more than new high-tech systems. Moreover, until recently, ordinary border technologies—such as fingerprinting—were nondigital, and in some cases, they still are (see also [Perret and Aradau forthcoming](#)). In this section, we explore how digital and nondigital assemblages are configured in the Greek and Italian asylum contexts. Greece has been systematically using digital technologies as forced digital interfaces between humanitarian actors and asylum seekers. With the increasing arrival of Syrians in Greece in 2015, the European Commission backed up the use of these technologies and prepaid cards as a way to streamline the logistics of refugee humanitarianism and tackle the so-called “refugee crisis.” In the span of two years, a series of apps (Skype, Viber, and WhatsApp) and ordinary digital tools (prepaid cards) have been integrated into the daily functioning of the asylum system. More precisely, they have contributed to obstructing migrants from getting access to asylum.

Between 2016 and 2021, migrants who wanted to claim asylum were required to book an appointment with the Asylum Office to lodge their asylum application through a Skype call system ([ECRE 2021a](#); [Aradau 2022](#)). While the Skype system was officially implemented for streamlining the asylum procedure, in practice it turned into a digital barrier for people seeking asylum, due to the limited time slots in which they could call, the busy line, and the difficulties that some experienced in accessing the internet and using Skype ([Mobile Info Team 2021](#)). Simultaneously, ordinary apps—such as WhatsApp and Viber—have become the main communication channels between asylum seekers and state and nonstate actors. For instance, since 2020, on the island of Lesbos, migrants have been getting updates about new administrative measures or laws in place only via a Viber community chat.² Viber chats have also been used as one of the few means (alongside a nonfunctioning landline number) for asylum seekers to report disruptions with the monthly cash assistance which, until September 2021, was uploaded on a prepaid card delivered by the UNHCR ([Tazzioli 2022](#)).

The outbreak of COVID-19 has temporarily enhanced the digitalization of asylum in Greece: In 2020, an online platform was introduced by the Ministry of Migration and Asylum for asylum card renewals and for lodging asylum applications. Yet, far from benefitting migrants, forced digital intermediations have multiplied the hindrances that they face in claiming asylum on a twofold level. First, because they increase physical distance with humanitarian and state actors and because some asylum seekers do not have sufficient internet connectivity or the technological tools needed (e.g., smartphones). Second, because technological glitches and disruptions are highly frequent in refugee humanitarianism. Far from being an unintentional side effect, such uneven malfunctioning is part of the broader obstructions enforced to prevent migrants from becoming refugees ([Tazzioli 2022](#)). The partial digitalization of the asylum system has been largely enacted through ordinary technologies, not through high-tech systems. Moreover, in using these forced digital intermediations, both migrants and humanitarian actors often experience glitches and interruptions and, therefore, need to resort to paper-based documents.

During the asylum procedure, the persistence of the nondigital, alongside the few partly digitalized steps mentioned above, concerns quite salient moments. For instance, the formal rejection of the asylum application or of the appeal is given to migrants on a paper-based document, although the decision is stored by the state

²<https://invite.viber.com/?g2=AQBwnVKr3AUHuv7i1F8blVpQ6t6fqUHHHqTaIVCMvoPy3ty6b4DM6Lio%2BryaTS0&lang=en>.

digitally. The paper version of the outcome of the asylum application is essential in many circumstances. On the Greek islands, some “rejected” asylum seekers receive a sort of *laissez-passer*, written on the same paper that includes the asylum outcome, which allows them to get the ferry and move to the mainland. Only if they show the paper document to authorities at the port, are they authorized to board the ferry. Thus, even if since November 2021 paper-based asylum cards have been replaced with digital ones that contain different kinds of data about each asylum seeker,³ migrants are often asked to prove their status and their right to get access to humanitarian or financial support by showing their paper documents (Cabot 2012; Witcher 2021; Spathopoulou, Carastathis, and Tsilimpounidi 2022). In fact, the implementation of the digital asylum card has not entailed the end of the paper-based evidence that is requested to migrants.

Authorities have also continued to collect information on paper in parallel to using digital tools for identification and registration practices. In Italy, for example, in addition to collecting migrants’ biometric data and storing them in the national and European databases, border authorities have been filling out the so-called “foglio notizie”—a multiple-choice sheet that collects information on people and their journeys. The “foglio notizie” is a preliminary tool that the police use as part of preidentification procedures and that is *not* meant to impact migrants’ legal status and asylum claims. Yet, as lawyers have denounced, migrants are routinely prevented from accessing the asylum procedure on the basis of the nationality they state in the “foglio notizie” and the box they tick concerning their reasons for traveling to Italy (e.g., “work” as opposed to “asylum”). In some provinces, lawyers also found that authorities have been distributing a second, more detailed “foglio notizie” that is prefilled to exclude all the reasons that would prevent migrants’ expulsion. This paper is given to people several days after identification procedures alongside a statement, written exclusively in Italian, which asks them to declare that they do not wish to seek international protection (Sciurba 2017; D’Angelo 2019; ECRE 2022).

Thus, through the “foglio notizie” paper, Italian authorities are able to “reverse” and invalidate asylum claims. Lawyers have long tried to challenge this practice, even filing a (successful) appeal to the Court of Cassation, which confirmed the illegitimacy of using the “foglio notizie” to determine someone’s legal status (ASGI 2019; see decisions 18,189/2020 and 18,322/2020). During the COVID-19 pandemic, when it was not possible to meet clients face to face, they devised a system to leave digital traces of migrants’ intention to seek asylum by combining written proxy, WhatsApp messaging, and Certified Electronic Mail (CEM). In doing so, they tried to offset the authorities’ *de facto* erasure of asylum claims. Yet the “foglio notizie” has continued to be a powerful tool in the hands of authorities and remains “the most difficult [form of] evidence to challenge in court [. . .] a simple piece of paper which has the power to prevent people from exercising their rights” (Interview with Immigration lawyer, May 18, 2022). The “foglio notizie” and the other examples presented in this section clearly demonstrate the imbrication of the digital and nondigital in migration governance, as well as the need to challenge the techno-hype that pervades research on migration and recognize the (partial) continuities between past and present bordering practices.

If it is true that “we cannot understand government without understanding documents” (Freeman and Maybin 2011, 155), similarly, we cannot understand migration governmentality without coming to grips with the “paper trails” (Horton 2020) and the entanglements of digital and nondigital data about those who are labeled as “migrants.” Yet what is important here is not only the persistence of paper-based evidence and nondigital data in migration governmentality: The imbrication of dig-

³The digital smart card contains data from each asylum applicant that previously was scattered across different databases.

ital and nondigital unfolds the clear-cut power asymmetries between migrants and states. Indeed, as the example of the “foglio notizie” shows, authorities can make paper-based evidence prevail over the digital evidence when the latter is put forward by migrants and lawyers. We elaborate on this point in the following section, where we explore migrants’ and states’ tactical engagements with digital and nondigital data drawing on field observations from Italy’s internal borders with France and Slovenia.

Erasing, Creating, and Reconstructing Traces

Italian–French border, December 2021: As we walk up the main road that connects Claviere to Montgenevre, we notice torn pieces of paper in the melting snow. They are fragments of expulsion orders issued by authorities and discarded by migrants as they continue their journey through Europe. The one we collect from the ground is from Slovenia; it is still possible to read part of the name and country of origin of the person it belonged to, his date of birth, and the date on which he was issued the expulsion order only a week before reaching France. These material traces of migrants’ passage offer a glimpse into people’s journeys and experiences. More importantly, for migrants who do not (or are not allowed to) claim asylum and are categorized and governed as “irregular,” they may be the only bureaucratic trace of border crossings in their possession. Indeed, while several paper-based and digital documents are produced and exchanged between authorities in border procedures, migrants are not given copies of these records; typically, they only receive expulsion papers. Expulsion papers thus become the main material manifestation of border inscriptions, evidencing and producing their irregular status while testifying to the violence of Europe’s border regime.

Ripping and discarding expulsion orders and other documents collected during the journey is a common way to destroy evidence of passage through another state. However, migrants also painstakingly collect and preserve documents that could be valuable for future asylum claims or regularization opportunities (see also [Chang 2011](#); [Gomberg-Munoz 2020](#)). In other words, they make up and curate alternative “paper trails” ([Horton and Heyman 2020](#)) or “personal archives” ([Georgiou and Leurs 2022](#)), through which they seek to appropriate and (re)craft their life narratives. This form of everyday resistance ([Scott 1985, 1989](#)) challenges the binary opposition between states’ documents and identification practices, on the one hand, and migrants’ lack of papers and refusal to be identified, on the other hand. At the same time, it is important to highlight that migrants’ tactics do not always produce their intended effects. For example, discarding papers issued by authorities can make it difficult for lawyers to prove states’ violations and rights infringements at the border, while documentary evidence preserved and presented as part of asylum applications can end up hindering applicants’ credibility if judged to be “unauthentic” ([Bohmer and Shuman 2017](#); [Aradau and Canzutti 2022](#)).

Migrants’ tactics in fact take place within an uneven playing field fraught with opacity, ambiguity, and unpredictability. It is virtually impossible to know which digital and nondigital forms of evidence states can twist against migrants, and which can instead be used to corroborate people’s truth claims. For instance, according to the Dublin Regulation, migrants can be sent back to the first EU member state they entered on the basis of “proof or circumstantial evidence.” The strongest and most common form of proof are the digital biometric records held in the database EU-RODAC (European Asylum Dactyloscopy Database), which stores the fingerprints of asylum seekers, irregular border crossers, and illegalized migrants in order to record the state of first entry or the member state where asylum seekers first lodged their asylum application (Article 3(2), Dublin Regulation). However, the European Commission’s list of means of proof that will determine the member state responsible for processing an asylum application is broader than EURODAC fingerprints

and includes, *inter alia*, other database results, official documents and written information provided by other states, and DNA tests. Furthermore, circumstantial evidence (which *might* lead to responsibility) includes appointment cards, bills, tickets, and records from hospitals or prisons (Interview with Dublin Unit, May 10, 2023).

Thus, migrants might be sent back to the state of first entry on the basis of a wide and highly heterogeneous range of digital and paper-based “evidence.” This is what happened to M., an Iranian citizen who was returned from Germany to Slovenia after German authorities found a receipt from a Slovenian reception center in his pocket. Further complicating migrants’ attempts to erase or reconstruct their passage is states’ constant (and often strategic) oscillation between practices of recording and nonrecording, which makes evidencing migrants’ presence in a national territory to contest illegitimate practices by authorities extremely difficult (see also Rozakou, 2017). Pushbacks and informal readmissions are a particularly poignant example of this. In May 2020, Italian authorities at the eastern border began to systematically implement informal readmissions to Slovenia on the basis of a 1996 bilateral agreement between the two countries.⁴ By the end of the year, at least 1,300 people had been readmitted to Slovenia in what often turned out to be the first step in a chain of pushbacks leading to Croatia and then Bosnia (ECRE 2021b). As reported by ASGI (Association for Juridical Studies on Immigration) and confirmed by the Italian Ministry of Interior, informal readmissions were applied to all migrants found near the Italian–Slovenian border, including asylum seekers, and unlike formal readmissions, they did not entail the issuing of formal expulsion orders (Statewatch 2021). This significantly hindered appeals and other remedies sought by legal representatives, who struggled to reconstruct and evidence illegal pushbacks against asylum seekers: “not only were people prevented from claiming asylum [. . .] they also couldn’t challenge the pushback or indeed prove that it had actually happened. Pushbacks left no trace [. . .] and migrants were turned from legal subjects with inalienable rights into ghosts” (Interview with Immigration lawyer, December 23, 2021.)

In addition to not being issued formal expulsion orders, migrants who were readmitted to Slovenia were not formally identified and registered in the national database AFIS (Automated Fingerprint Identification System) and, more importantly, the European database EURODAC. The nonuse of EURODAC within immigration and asylum procedures has long been a contentious issue among European states: By not registering migrants’ data in EURODAC, authorities can in fact circumvent the Dublin Regulation and avoid taking responsibility for asylum seekers. In the case of the “informal readmissions” between Italy and Slovenia, the absence of analogue and digital traces allowed the Italian Ministry of Interior to win an appeal against a Court of Rome ruling that declared the expulsion of a Pakistani asylum seeker illegitimate (case R.G. 56,420/2020, January 18, 2021) (PRAB 2021). The MoI’s argument centered around “the undeniable and undisputable fact that there is *absolutely no trace* of the person’s transfer between the Italian and Slovenian authorities [. . .] his name does not appear in the identification records and police databases: he is unknown to both Italian and Slovenian authorities” (case R.G. 7045/2021, emphasis added).⁵ The asylum seeker who filed the case against the MoI reported having had his fingerprints taken on paper, not through a digital scanner. So did several other migrants who were readmitted by Italy and whose testimonies were collected by national and international advocacy groups.⁶ However, the Italian MoI vehemently denied these allegations and used them to undermine the credibility of the witness.

⁴https://web.camera.it/_bicamerale/schengen/docinte/Accordi.htm.

⁵https://www.asgi.it/wp-content/uploads/2021/05/2021_Tribunale_Roma_rotta_balcanica_10630266s-2.pdf.

⁶See, e.g., Border Violence Monitoring Network’s monthly reports (<https://www.borderviolence.eu/category/monthly-report/>) and “The Black Book of Pushbacks” (<https://left.eu/issues/publications/black-book-of-pushbacks-volumes-i-ii/>).

As reported in the judge’s decision (case R.G. 7,045/2021), the defense lawyers rejected the claim that the asylum seeker “had his fingerprints taken [on paper] in the barracks in Trieste, given that since May 15, 2016 the border police in Trieste has been using a photo identification system (*apparato di fotosegnalamento*) consisting of a scanner that does not require the taking of fingerprints on paper.” What is interesting here is not only how authorities may have harnessed the imbrication of digital and nondigital tools and shifted between the two to “leave no trace” of the readmission and avoid taking responsibility for asylum seekers. In this case, the MoI has also invoked the (purported) full digitalization of border procedures to question the credibility of the asylum seeker and invalidate his testimony. The simple fact that digital scanners were present in border police offices was taken as evidence that he did not experience the facts he narrated and that he had fabricated his account. Indeed, the Tribunal of Rome upheld the MoI’s appeal on the basis that there were not sufficient elements to determine that the asylum seeker had “personally lived the events he recounted”; the Tribunal also stressed that the NGO and newspaper reports used to corroborate his story could not “constitute the determining factor for the success of his application [. . .] in the face of facts contested by the administration, which has referred to specific circumstances of places, space, as well as modalities and operational procedures that have long been employed by the police (to which we should add the findings in the EURODAC system)” (case R.G. 7,045/2021).⁷

The above case sheds light on the clear-cut asymmetries of credibility between migrants and state authorities. The discrediting of migrants’ discourses that has been widely discussed in the literature (Beneduce 2008; Magalhães 2016; Shuman and Bohmer 2019) is here replicated through “epistemic borderwork” that “deny[ies], conceal[s], or undermine[s] knowledge about the violence of borders” (Davies, Isakjee, and Obradovic-Wochnik 2022, 7). The imbrication of digital and nondigital records at the border is crucial to this. Identification and records, and the possibility to bring evidence against states’ violations, often go to the detriment of migrants. By contrast, states can invoke “the digital” to corroborate their narrative and dismiss migrants’ speech while also using paper-based documents to circumvent their legal responsibilities. This shows how digital evidence is not equally recognized as proof of law infringement for state authorities and for migrants. Which subjects bring digital evidence or try to erase it, matters.

In this sense, “epistemic borderwork” (2022) is underpinned by “epistemic injustice” (Fricker 2007), which is further articulated as digital injustice—as asymmetries of credibility are based around digital evidence. The persistence of digital injustice foregrounds the pitfalls of analyses that claim to fix discrimination at the border only by demanding more transparency in data collection and data management. In fact, clear-cut power asymmetries are embedded in the very functioning of the border regime and require combining claims for access to data and digital evidence with struggles against the racialization of some border crossers as “migrants” and their discrediting as deceitful subjects. For this reason, we suggest that quests for “data justice”⁸ (Dencik et al. 2019) should take into account modes of digital injustice enforced through asymmetries of credibility, which are further exacerbated by migrants’ difficulties in accessing the multiple data that states extract from them. We discuss this final point and the implications of what we call “scattered digital subjectivities” in the next section.

⁷The EURODAC search found a previous asylum application lodged in Greece in 2016.

⁸Lina Dencik and colleagues have developed the concept of data justice to stress “the implications that data-driven processes at the core of surveillance capitalism have for the pursuit of substantive social and economic justice claims” (Dencik et al. 2019, 9). However, we suggest that attention should be paid also to the racialized inequalities that underpin the credibility given to subjects’ speech and the evidence they bring.

Scattered Digital Subjectivities

Migrants' lives are affected by multiple data-extraction activities as well as the constant injunction to produce and show documentation. In turn, legal subjectivities are enacted through the piling up of diverse (digital and nondigital) data and records: "a person," as Bridget Anderson argues, "becomes through this temporal process manifest in documentation, a 'case'" (Anderson 2020, 57). In fact, the production of a "case" and the making of migration through digital–nondigital assemblages cannot be fully captured by the term "data double" (Haggerty and Ericson 2017), which conveys the image of a discrete digital subject. The digital bureaucratic subjectivities that are produced through multiple data extraction processes are scattered across different databases, paper trails, and administrative procedures. Relatedly, the expression "data double" is misleading because "a piece of biometric data relates only to the body—of which it would then be an imprint or index—not to the identity of a person" (Grünenberg et al. 2022, 214). Thus, through the so-called datafication of mobility, migrants' scattered digital identity is mainly flattened onto data related to their bodily features and information concerning their encounters with the state.

The production of scattered digital bureaucratic subjectivities is not only a matter of migrants' datafication: The interlacing of data, papers, and categories that concern the legal status and the rights of those labeled as "migrants" has a tangible impact on people's lives and contributes to shape their subjectivities. The multiple data extraction processes that migrants are exposed to do not simply record who migrants are and whether they are entitled to stay and access rights: They enact abject subjects (Freeman and Maybin 2011; Scheel, Ruppert, and Ustek-Spilda 2019). More precisely, by saying that data extraction processes do not simply record but enact, we want to stress that the production of scattered digital subjectivities is a political technology of migration governmentality through which migrants' lives are disintegrated, choked, and taken apart. In this respect, Keramet Reiter and Susan Bibler Coutin have argued that "illegalization and criminalization produce a new form of legal subject, which is neither a juridical subject governed by law, nor a disciplinary subject [. . .] Instead, the subject is disintegrated" (Reiter and Coutin 2017, 568). The disintegrated subject stems from both the administrative sanctions that Reiter and Coutin speak of and, we add, from the scattered digital subjectivities that are generated through multiple processes of data extraction.

While the "data double" implicitly refers to a digitalized homogenous subject, we suggest that the border regime works by disintegrating subjectivities through a multiplicity of digital and nondigital data files, which migrants can hardly keep track of and which, however, they are constantly requested to show and match. In other words, the fact that migrants' digital subjectivities are scattered is not only the outcome of the partial lack of interoperability among databases and communication between state authorities, nor is it the mere outcome of technical glitches. Rather, it turns into a biopolitical hold over migrants' lives that makes it almost impossible for them to fully reconstruct how they have been labeled at different stages of bureaucratic paths. Importantly, what we have called "scattered digital subjectivities" are *de facto* formed by both digital and nondigital data and by asymmetries between the documents that migrants hold and those stored by the states. In some cases migrants find themselves in an administrative trap caused by the discrepancy between digital and nondigital records.

It often occurs that migrants are excluded from rights they are entitled to or that they end up in a legal limbo because of name misspelling. This might happen at the border, upon arrival, at the moment of the preregistration procedure, or after being transferred to camps or reception centers, as well as during the multiple bureaucratic steps they go through. M., an Afghani citizen, arrived on the island of Lesbos in May 2019 from Turkey on a boat with about twenty people. After land-

ing, M. was immediately transferred to the hotspot of Moria, where he was identified and fingerprinted by the Greek police and by Frontex. When he was asked his name and surname, the police officer misspelled M.'s name in the official records, but M. could not know this as he was not allowed to see the screen of the police's computer. The misspelling of his name haunted M. throughout his asylum procedure and restricted his possibility to get access to socioeconomic support: Indeed, since he was not aware that the police officer had misspelled his name, he gave the Asylum Office his original name. When he received the asylum card, the name written on it did not match the one stored in the police database. Because of this mismatch, M. struggled for months to obtain the papers necessary to access the Greek health system and job market, until a lawyer helped him to bring evidence of the misspelling to the Greek authorities.

Thus, M. could not catch up with his own identity anymore, as this was translated into a datafied-digital one and stored differently in different databases. This case of data mismatch, caused by authorities' mistake, illuminates the difficulties that migrants face in gaining access to the records stored about them across databases and foregrounds the scattered digital subjectivities that stem from the multiple data extraction processes they undergo throughout their journeys. Mismatches between states' records and migrants' papers are not specific to digital data and are also generated through nondigital documents. However, we suggest that the imbrication of digital and nondigital enhances the chances of mismatches due to the multiplication of modes of data collection and storage, as well as the different databases used. In fact, more than digital papers per se, it is rather the assemblage of digital and nondigital that increases the chances of mismatches.

For migrants, reconstructing the assemblage of digital and nondigital records that states have about them is a thorny task. Data extraction in fact implies both that migrants are robbed—as their bodily features get stored by the state—and that digital subjectivities are enacted, which migrants themselves often know very little about. That is, states do not merely extract and retain data from migrants: They produce, alter, and transform migrants' subjectivities and often deny access to part of those scattered digital subjectivities. The case of Mohamed Dihani, a Saharawi human rights activist who was arbitrarily detained and tortured by Moroccan authorities between 2010 and 2015, clearly illustrates this point. As reported by Amnesty International, which supported his case, Dihani's application for a medical visa was rejected by Italy in 2018 because the Italian authorities found an alert in the European database Schengen Information System (SIS) about him. An SIS alert implies that the person is blacklisted from the Schengen area. Neither Dihani nor his lawyers were authorized to access his SIS file. In June 2022, the Court of Rome finally authorized Dihani's travel to Italy, establishing that Italian authorities' resort to the SIS alert to ban his entry was unlawful—due to the unlawful use of anti-terrorism laws by Morocco ([Amnesty International 2022](#)). However, when Dihani subsequently applied for asylum in Italy, the Ministry of Foreign Affairs informed him that he could be subjected to deportation due to the SIS alert.

Even in more “ordinary” cases, immigration lawyers report significant challenges in accessing data and records related to their clients: “sometimes, you go to court and see that the counterpart has a massive file [on your client], while what they shared with you is only a couple of pages.”⁹ Furthermore, subject access requests do not always produce useful outcomes, for it is difficult to know where the information is stored or which individual office holds the specific documentation needed. Such difficulties are amplified when there is more than one state involved, as in the case of chain pushbacks, where trivial details like the different spelling of migrants' names in official files can prevent a full reconstruction of events. Of course,

⁹Research notes from online workshop, September 14, 2022.

it is important to acknowledge that states may also face challenges related to digital and nondigital records and errors: As Italian authorities highlighted in a 2020 report by the European Migration Network, “due to errors or different practices of transliteration [. . .] within the same Member State and between different Member States,” “it is possible that applicants’ records do not collimate, making it difficult to cross-check information between European databases” (EMN 2020). However, these difficulties should be situated within the clear-cut asymmetries of power and credibility that underpin bordering mechanisms and that we highlighted in the previous section.

Migrants’ leeway to get access to their scattered digital subjectivities and the assemblages of digital and nondigital data produced about them are restricted by the authorities to corroborate their own narratives and to discredit migrants’ credibility and evidence—for instance, about being pushed back at the border after declaring the intention to claim asylum. This shows that migrants’ twisting of the digital to their advantage is not an easy matter, and that it cannot consist of mere tactical appropriations. Rather, it requires navigating the tiny leeway and ambivalences of how digital tools are used and partly nonused by states, in some cases also by putting one authority against the other.

Conclusion

Debates on border technologies tend to reproduce linear progressive narratives that speak of an increasing digitalization of migration governmentality and to corroborate ways of “seeing like a state” (Scott 1998) by presenting technologies as innovative tools for fixing discrimination at the border. In so doing, humanitarian and state programs on “digital innovation” have contributed to shaping the migration debate in governmental terms. Overall, the extensive use of biometric technologies in refugee camps and at the border is often presented as a worrying concern, but also as an opportunity for governing migrants “better” and reducing the margin of error in identification procedures. Against this background, this paper has gestured toward a more nuanced account of the entanglements between digital and nondigital technologies, drawing attention to the heterogeneity of bordering practices through which racialized control over mobility is enacted. An insight into the assemblages of digital and nondigital data illuminates the deep unevenness of border control practices and, at the same time, shows that the border stretches far beyond the national frontiers where migrants are often apprehended, identified, or pushed back (Casella Colombeau 2020).

Through a focus on the persistence of nondigital data in migration governance, we have questioned the techno-hype and techno-philia at play in debates on borders and migration: Instead of interrogating how technology can be used to manage migrants in a smoother and fairer way, we have investigated how assemblages of digital and nondigital data affect migrants, and the ways in which they generate scattered digital subjectivities, rather than a coherent data double. For migrants, it is extremely difficult to retrace the scattered digital traces extracted from them by authorities, and to know with whom these data are shared and what the consequences of it are. Assemblages of digital and nondigital data haunt migrants throughout their journeys: Migrants are repeatedly asked to prove and match evidence of their digital and nondigital “paper trails” (Horton and Heyman 2020), when often the data stored by states about their presence, biography, and movements are not accessible to them. Migrants often scrap their papers in order to erase any trace of their passages, yet the lack of papers can be easily turned against them by enabling states to deny that they were ever present in their territory and become unaccountable for rights’ violations. The fact that migrants are, on the one hand, asked to show multiple papers while trying to erase traces of their passage and, on the other hand, unable to ac-

cess the digital subjectivities produced and stored by states foregrounds modes of border violence that tend to remain invisible. It also draws attention to the clear-cut asymmetries of power and credibility that are embedded in the border regime.

These modes of border violence and power asymmetries also tell us something about migrants' resistances and refusals. Indeed, migrants' resistances against identification and data extraction do not always consist in sheer refusal or the erasure of all digital traces: They are also formed by tactical appropriations, attempts to bring evidence of their presence or partially get rid of papers they are given. An insight into scattered digital traces that migrants struggle to access and keep track of should push migration scholarship to re-articulate a critique of the border regime beyond ostensible forms of violence. In contrast with the "erasure of the migrant" (Chouliaraki and Georgiou 2022, 34) that an exclusive focus on digitalized borders has led to, it is crucial to interrogate how border-making practices formed by digital–nondigital assemblages produce disintegrated subjectivities.

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