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INTRODUCTION

Precarious migrants, migration regimes and digital technologies: the empowerment-control nexus

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ABSTRACT

This special issue makes an in depth analysis of the various and complex interactions between precarious (i.e. forced, vulnerable, undocumented or deported) migrants' emancipatory practices enabled by information and communication technologies, and the constraints created by technological tools used for surveillance and migration control. It explores the *empowerment-control nexus* by articulating the use of digital technologies – whether by migrants themselves, by civil society actors, or by institutions – with their *mediating* role in the processes of empowerment, surveillance and migration control. It gathers together seven articles that draw on original empirical studies conducted across various geographical zones (European Union, Switzerland, France, Romania, Greece, Turkey, Mexico and the United States), and different disciplines (anthropology, sociology, geography, media studies, law, and deportation studies). Building on this diversity, this collection of papers embraces the richness of several theoretical lenses and reflects the varying degrees of (dis)entanglement between individual and institutional practices, at micro and macro scales, as well as local, national and supranational levels.

KEYWORDS

Digital technologies; precarious migrants; biometrics; digital borders; migrants' agency; surveillance; migration control; technological mediation

1. Introduction

In the wake of the digital revolution, the 'online migrant' – as a vanguard social figure at the crossing of *homo numericus* and *homo mobilis* (Nedelcu 2009) – appeared as one ideal-type of contemporary society's actors whose practices are entrenched within complex social interconnectivities, and circulations of people, objects, ideas, and regulations. Migration studies have brought to the fore the crucial role that information and communication technologies (ICTs) play in the diversification, the intensity and the breadth of migrant transnational practices. In particular, studies of digital diasporas (Bernal 2005; Kissau and Hunger 2008; Brinkerhoff 2009; Nedelcu 2009, 2018; among others) and transnational families (Madianou and Miller 2012; Baldassar et al. 2016; Nedelcu and Wyss 2016) have shown that ICTs represent creative resources allowing dispersed populations to gather, mobilise and act across borders. In addition, through the new co-presence regimes generated by ICTs, they can express multi-faceted identities and multiple political membership and allegiances (Nedelcu 2012). These studies revealed that 'connected' migrants (Diminescu 2005;

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Leurs and Ponzanesi 2018) strongly enhanced their ability to manage transnational lives. It has also been argued that ICTs are important tools in helping the process of migrants' integration (Codagnone and Kluzer 2011; Reichel, Siegel, and Tudela 2015). At the same time, empirical studies suggested that low skilled, as well as forced migrants (and 'smart' or 'connected' refugees in particular) are empowered by their strategic use of ICTs (Diminescu 2002; Gillespie et al. 2016; Smets 2017; Dekker et al. 2018). However, how precarious migrants – i.e. migrants either with low economic and cultural capital or with irregular/vulnerable migration status – are taking advantage of digital resources has generally remained until recently an overlooked topic (Leurs and Smets 2018).

In parallel, recent scholarship in the field of border, surveillance and security studies has increasingly underlined the significant part played by technology within renewed security-focused objectives implemented by migration and mobility regimes. In the context of growing uncertainty enhanced by 9/11 and succeeding terrorist attacks, the United States (US), the European Union (EU), as well as various nation-states have developed migration policies and border control regimes that employ cutting-edge surveillance technologies (e.g. biometrics coupled with databases such as Eurodac, Schengen Information System (SIS), Visa Information System in Europe; US-VISIT in the US). As a result, 'migration technologies' (Dijtelbloem, Meijer, and Besters 2011) are profoundly changing the border control processes that are part of the migration control *dispositif* (Ceyhan 2008). They represent effective tools for drastically limiting movement of 'third countries' nationals, as well as aspirations of freedom of refugees and displaced people who are blocked behind newly erected borders.

Within this context, this special issue's objective is to scrutinise the various and complex entanglements between precarious migrants' emancipatory practices enabled by ICTs, and the constraints created by technological tools put into practice in states' migration control and surveillance regimes.

2. Digital technologies as tools for migrants' empowerment and control: state of the art

Two fields of research permit us to examine the impact of digital technologies on precarious migrants and migration regimes from a critical perspective: (1) digital migration studies and (2) border and surveillance/security studies. Both fields generate knowledge across different disciplines, such as social anthropology, sociology, political science, law, international studies, and communication and media studies. The existing research in these two fields demonstrates that, on the one hand, ICTs can be creatively used by refugee populations, and by other actors in civil society to maximise refugees' chances of completing their journey to destination countries, and fulfilling their aspirations to decent living conditions. On the other hand, when used by supranational entities and governmental bodies, digital technologies can erect new e-borders and enlarge states' control and surveillance capacities.

2.1. Empowerment and visibility of precarious migrants in the digital era: insights from digital migration studies

In the early 2000s, a few empirical studies pointed out the importance of digital technologies as resources for migrants in vulnerable situations, despite persisting inequalities in

terms of access, infrastructure and digital skills (Diminescu 2002; Horst 2006; Nedelcu 2009; among others). For instance, Diminescu (2002) showed that mobile phones have become strategic tools in undocumented African migrants' struggle to regularise their situation in France, and they have been the principal connection through which Romanian street newspaper vendors stayed in touch with their French employers. In the same vein, Horst (2006) described how Somali refugees in the Dadaab camps (north-eastern Kenya) were receiving constant support from their peers living abroad, in particular through a semi-formal system of communication and banking services operated via telephone, fax, SMS and e-mail. At the same time, Internet has created a new social sphere allowing refugee populations to find a space in which they can voice their claims and identities. Baujard (2008) discovered that refugees from Burma (based in India and Thailand) have turned virtual platforms and digital activism into their main tools to strengthen their identity as refugees, and to express political claims. More generally, refugee diasporas use ICTs to gather information and resources that allow them to actively mobilise and act as transnational actors within civil society in their country of origin, for instance by inciting the organisation of political protest or by sending remittances (Bernal 2005; Syrett and Yilmaz 2019). These different examples show that migrants in situations of high (social, economic or legal) precariousness are able to make innovative uses of ICTs.

The refugee crisis that emerged in 2015 gave a new impetus to studies focusing on the impact of ICTs on migration processes, and Leurs and Smets (2018) argued that the 'exceptional attention' paid to the digital mediation of forced migrants' mobility practices is now reflected into a growing area of research within the field of digital migration studies. This increasing interest encompasses different processes. An important stream of research is bringing to the fore the essential role played by mobile technologies (e.g. smartphones) and social media (e.g. Facebook, WhatsApp) in helping refugees and undocumented migrants to obtain vital information to accomplish their journeys successfully. Global positioning apps, digital maps, and digital platforms through which experiences are shared within informal networks represent innovative logistics that allow migrants to better cope with the changing (and often hostile) social, political and economic conditions to which they are exposed (Ennaji and Bignami 2019). For instance, Gillespie, Osseiran, and Cheesman (2018) have shown that smartphones are as vital as food and water in Syrian and Iraqi refugees' passage to Europe. On the one hand, these mobile communication tools allow refugees to plan, navigate and document their journeys whilst being in regular contact with family and friends. On the other hand, smartphones are also necessary to contact smugglers when they have no other option (Gillespie et al. 2016, 2018). Furthermore, being locatable when on the move (i.e. able to communicate their location to coastguards or family members), and especially being 'visible to ensure their survival at sea' (Gillespie, Osseiran, and Cheesman 2018, 7) become matters of vital necessity. During their journey to Europe, refugees share devices and circulate collective knowledge gathered and disseminated by other pioneering migrants, family and ethnic networks, agents, and smugglers through specific media outlets.

Nevertheless, the same digital tools that empower refugees during their passage to Europe can also be used against them. Digital traces can serve as a vector for hostile political regimes from origin countries to track political opponents (Alinejad et al. 2018; Gillespie et al. 2016). There is also a risk of relying on misinformation that can put the migration project in jeopardy. Aware of these threats, Syrian asylum seekers in the

Netherlands developed various strategies to validate information coming from social media (Dekker et al. 2018). These strategies include giving preference to information provided by personal networks and trusted social ties, as well as linking together different sources of information, combined with migrants' own personal experiences.

Concurrently, there is a growing body of research that points to different forms of digital activism that give visibility to refugee populations. In the first instance, studies on digital diasporas illustrate that Internet has created – especially for highly politicised refugee diasporas (Van Hear 2006) – new public spheres that 'might enable migrant voices to be heard where political participation is otherwise scarce' (Kissau and Hunger 2008, 6), thus allowing a collective voice of minority groups to emerge (Mitra 2005; Nedelcu 2018). However, in the context of the on-going European 'migration crisis', Georgiou (2018) depicts a more ambiguous effect of digital mediation tools when it comes to giving a voice to 'subaltern' refugee groups. This author argues that the digital space is highly hierarchised. Relations of power express in complex ways, reflecting power differences derived from the intersection of gender, race, class, generation, and geopolitical relationships, within specific social, political and emotional contexts (Candidatu, Leurs, and Ponzanesi 2019). Secondly, an increasing attention has been given in the last couple of years to new 'digital movements of opinion', i.e. 'spontaneous online mobilizations of the mass publics, which temporarily turn into an active public' (Barisione, Michailidou, and Airoldi 2019, 1148) that arose in different parts of the world. In the context of mitigated nation-states' political responses to the refugee crisis, spontaneous and innovative web-based actions (across borders) of civil society multiplied, especially in 2015 and 2016 when this crisis was at its peak. Although many of these initiatives disappeared several months later, new 'digital advocacy organizations' (Hall 2019) for the refugee cause have emerged from this momentum, and they have implemented new digitally enabled action 'repertoires' and forms of grassroots agency. At the same time, certain digital-based initiatives have led to the production of technological enabled solutions intended for 'smart refugees' (Dekker et al. 2018; Ennaji and Bignami 2019) and the 'refugee diaspora' (Leurs and Smets 2018). In particular, a myriad of hackathons facilitated the development of pragmatic solutions and smartphone applications to help refugees along their journeys (Irani 2015; Madianou 2019). In this way, Internet-based initiatives complemented collective actions initiated by well-established migrant advocacy and associative milieus that traditionally intervene on the ground in favour of refugees in receiving and transit countries.

2.2. 'Migration technologies': biometrics, e-borders and technological surveillance at the core of migration control

While intensively used by migrants themselves, ICTs have also become central to the management of migration flows by nation-states and supranational agencies (Latonero and Kift 2018). As Popescu stated, 'The integration of digital technologies into everyday life is transforming nation-states, sovereignty, territory and borders, serving to redefine these categories as well as the relationships between them' (Popescu 2017, 5). A new strand of research has developed within the field of surveillance, security and border studies, by focusing on intersections between digital technologies, security rationales and migrations regimes. It started to observe an on-going process of 'digitalization of

the European borders' (Broeders 2007) which aims to transform the EU into a 'cyber-fortress' (Marin 2011). In particular, these studies scrutinise the ways biometrics, coupled with ICTs, are incorporated in migration and border control.

The attacks of 11 September 2001 in the US marked the beginning of a new era of reinforced commitment and interest in border security and cutting-edge technology (Longo 2017). As Amoore (2013) argued, it was 'the exceptional circumstances declared after 9/11 that opened up the possibility for experts in the unease of global markets to become the experts in the unease of state security' (Amoore 2013, 21). In addition, 'the vast expansion of biometrics in the military strategic control of flows of people' was 'paralleled by biometric border control' (Amoore 2013, 94), intended to prevent undesirable migratory movements (Jones and Johnson 2016). In this context, state sovereignty has been transformed. Even though, in her important work, Brown (2010) stated that walls and fences built after 9/11 are a sign of 'eroded sovereign state capacities to secure territory, citizens and economies' (Brown 2017, 2), several authors have pointed out different changes brought about by new forms of border security. For instance, Muller (2019) observes that biometric borders act as facilitators in the proliferation and permanence of state sovereignty. Jones and Johnson (2016) considered that the militarisation of borders, which goes hand in hand with the increasing use of technology such as biometrics, sparked a re-articulation and expansion of this sovereignty. For Longo (2017), broader 'zonal' borders have become frontiers, whilst equally sovereignty resembles increasing imperium, i.e. territorially unbounded political authority.

In addition, a new conceptual vocabulary came into being, related to the increasing use of technologies in border control. Hayes and Borderline (2012) utilised the concept of 'smart borders', while Pötzsch (2018, 93) introduced 'iBorder/iBordering to account for the impacts of new technologies of dataveillance, biometrics, algorithmic analytics, and human-machine coordination' in border control. In their analysis on the uses of data in the case of European border regimes, Metcalfe and Dencik (2019) employed the notion of 'big borders', stressing that data are used to systematically exclude and oppress unwanted migrants via mechanisms such as criminalisation, identification and sorting Amelung and Machado (2019, 392). suggested the term of 'bio-bordering' in order 'to capture how the territorial foundations of national state autonomy are partially reclaimed and, at the same time, partially purposefully suspended when establishing biometric data exchange'. Finally, Chouliaraki and Georgiou (2019) defined 'digital border' as an assemblage of mediations, which articulates digital and other technologies. These various conceptualizations underline the importance of technology within border control from a security perspective put forward by states. At the same time, they reflect processes that are a reminder of the role played by violence directed against undesirable cross-border mobilities. From this point of view, the analysis by Jones (2016) of 'violent borders' is particularly important, as it distinguishes between visible and other 'more subtle – but also systematic – forms of violence at borders' (Jones 2016, 17).

At the core of these transformations of bordering processes, biometrics become a 'new silver bullet, the simultaneous "solution" to a number of problems' (Ross 2007, 501) in migration control. Dijtelbloem, Meijer and Besters pointed out that biometric technologies 'treat the human body as if it were an information storage device' (Dijtelbloem, Meijer, and Besters 2011, 13). The collection of biometric data is carried out by censoring devices, which create digital representations of observed bodily characteristics (Van der Ploeg

1999). Aiming at 'the creation of undisputable facts' (Broeders and Dijstelbloem 2016, 16), biometrics have been incorporated in institutionalised methods of registering and recognising individuals (Grünenberg et al. 2020). In this context, according to van der Ploeg and Sprenkels, '[I]dentification, and especially biometrics, has become absolutely central to migration policy in all its varieties' (2011, 87), while risk profiling has become part of the government of mobility (Amoore 2006) and the politics of possibility (Amoore 2013).

We can link this with the fact that biometrics coupled with databases have tremendously increased states' capacity to remotely control mobility and migration (Zolberg 2003; Fitzgerald 2020). In the case of the EU, they are essential for dealing with irregular cross-border movements (Ferreira 2019). Haggerty and Ericson (2000) argued that the extensive use of biometrics is at the core of the functioning of a 'security assemblage', which 'operates by abstracting human bodies from their territorial settings and separating them into a series of discrete flows. These flows are then reassembled into distinct "data doubles" which can be scrutinized and targeted for intervention' (Haggerty and Ericson 2000, 606). In other words, the accumulation of data allows for the creation of detailed profiles of persons, which can be treated as their doubles, i.e. what Ross (2007) calls 'data migrants'. According to this author,

> for the most part, it is still state authorities with their powers to deter, detect, detain, and deport who access and assess this widening flow of personal information, literally constituting data migrants by retrieving, assembling, evaluating, and profiling bodily and behavioral data. (Ross 2007, 80)

Thus, nation-states transform themselves into 'biometric states', which are 'defined by the prevalence of virtual borders, reliance on biometric identifiers vis-à-vis passports, trusted traveller programs, and national ID cards, as well as the forms of social sorting' (Muller 2010: 6), while identification and surveillance technologies become central to their border and migration control *dispositifs* (Ceyhan 2008; Koca 2022).

In this context, several authors question the uses of biometrics and the principles on which they are based, arguing that biometrics technology is not neutral (Magnet 2001; Lyon 2008). This technology prevents or limits movements of certain groups (e.g. migrants), whilst favouring others (e.g. businessmen), producing a two-end process through which 'biopolitical production of […] privileged business class citizenship' is closely linked with 'anti-immigrant control' (Sparke 2006, 151). In this regard, Lyon (2003) pointed that identification by biometrics leads to 'social sorting', i.e. a biased treatment of some groups, especially marginalised ones, such as asylum seekers and irregular migrants. This is particularly problematic within the processes of foreigners' deportation, in which identification plays a crucial role (Broeders 2011). The 'technologization of control and monitoring functions' (Ceyhan 2010) potentially undermines illegalised and undocumented migrants dealing with constant deportability (De Genova 2002, 2007). However, the ways in which different actors – such as border police, migrants or hacktivists – use and experience biometrics is of particular importance (Grünenberg et al. 2020) for understanding 'potential harms' they can provoke (Marciano 2019). Moreover, as Whyte (2020) pointed out, it is also necessary to take into account that biometrics also concern social and cultural imaginaries. Yet, little is known about how institutional actors and street level bureaucrats are integrating biometrics into their practices, how

digital technologies are used for identification within migration control procedures, and how they intersect with broader processes of social exclusion.

In conclusion, this state-of-the-art draws attention to a multi-faceted social reality, which has been investigated through a multitude of theoretical and analytical lenses. Existing scholarship within digital migration studies on the one hand, and surveillance, security and border studies, on the other, is revealing the complex, multi-level and multi-dimensional impacts of digital technologies on migration processes that involve migrants in precarious (economic, social or legal) situations, as well as states' migration control practices.

3. The empowerment-control nexus and digital mediation: (dis)entangling precarious migrants' digital practices and states' technologized migration control

Based on the previous discussion, we put forward the idea that the study of the impact of digital technologies on migration processes cannot ignore these technologies' ambivalent potential to generate *simultaneously* new opportunities for migrants' agency (i.e. people's capacity to 'make a difference' (Giddens 1984, 14)), *and* new structural constraints to their mobility, actions and mobilizations, as they enhance states' surveillance and control capacities.

We argue that the understanding of the various intersections between digitalisation and migratory dynamics can be taken a step forward by bringing to the fore the *empowerment-control nexus*. On the one hand, this means questioning to what extent and in what way migrants' capacity to take advantage of digital technologies for coping with restrictive migration regimes interacts with the use of such technologies for controlling migration. On the other hand, studying this nexus requires shedding light on complex *socio-technical* processes in which agentic mechanisms and structural conditions take shape. In order to substantiate this argument, we rely on a more general debate that discusses digitally-mediated social processes by paying particular attention to technologies, materialities, networks and infrastructures. Notably, the *Actor-Network Theory* (ANT) (Latour 1992) has attracted a prime interest within this debate (Law 1992; Cresswell, Worth, and Sheikh 2010, among others). Considering non-human actants (such as technology) on the same level as humans, the ANT approach puts the focus on the 'relational ontology' that links people (e.g. precarious migrants/civil society/bureaucrats) and things (e.g. digital technology/devices/databases) in a network, and highlights the power relations this ontology generates (Greenhalgha and Stones 2010).

From this perspective, digital technologies are more than simple (migration) infrastructure, i.e. 'commonly black-boxed and invisible, functioning in the background as stable, taken-for-granted processes and standard operating procedures' (Leurs 2019, 92). Similarly to 'vehicles, routes, and journeys', they rather act as 'viapolitics' (Walters 2015). In other words, they are not influencing humans (here, precarious migrants) as an 'external force' (Cresswell, Worth, and Sheikh 2010), but as the result of a *mediating* logic (Latour 1994). Indeed, digital devices and environments (including smartphones and related applications, social network platforms, biometrics, EU databases, etc.) represent a 'vibrant matter' (Bennett 2009); i.e. they possess the capacity – within particular configurations of human and non-human forces – to enhance agency and/or reinforce structural constraints. Therefore, digital technologies can be considered both 'embedded and co-

constitutive of social, cultural, economic and political relations; enabling and disabling certain kinds of action' (Leurs 2019, 92), and having 'the potential to shape social interactions' (Cresswell, Worth, and Sheikh 2010, 2). At the same time, to understand how empowerment and/or control are enabled in the context of migratory precariousness, it is important to observe and analyse how human agents 'instantiate technology in social practices', and how they embed it in their complex socio-cultural frames (Greenhalgha and Stones 2010).

* * *

This special issue explores the *empowerment-control nexus* by articulating the use of digital technologies – whether by the migrants themselves, by civil society actors, or by institutions – with their *mediating* role in processes of empowerment, surveillance and migration control. It gathers seven articles that draw on original empirical studies conducted across various geographical areas (European Union, Switzerland, France, Romania, Greece, Turkey, Mexico, and the United States), and different disciplines (anthropology, sociology, geography, media studies, law, and deportation studies). Building on this diversity, this collection of papers embraces the richness of the various approaches and theoretical lenses identified in the literature and reflects different degrees of (dis)entanglement between individual and institutional practices, micro and macro scales, as well as local, national and supranational levels. Moreover, each of the articles reveals a different facet of the impact of digital technology on migration processes, from the digitally-enabled micro-practices of Syrian refugees in Turkey able to overcome 'information precarity' when they are *en route* (Şanlıer Yüksel 2022), to the function of European technological instruments such as the Eurodac database (Soysüren and Nedelcu 2022), and the implementation of entry-ban procedures within the SIS (Majcher 2022). The papers also unveil a specific form of *technological mediation* introduced by the use of ICTs into agency mechanisms and/or migration control processes, within various sites and/or situations: for instance, detention centres (Radziwinowiczów 2022), deportation procedures (Vrăbiescu 2022), borderzones (Koca 2022), or civil society support actions (Noori 2022). Thus, this special issue sheds new light on the complex and contrasting impact of technology on precarious (i.e. forced, vulnerable, undocumented or deported) migrants' actions, mobilisations, (im)mobility and control.

In her article based on a qualitative study that grounds on interviews and participant observations conducted in several Turkish cities, İlke Şanlıer Yüksel (2022) analyses how temporary status migrants (asylum seekers, transit, and temporary protected migrants), from different origins (Syria, Afghanistan, Iran, Irak, Congo) use ICTs, in particular smartphones, when they are on the move. She argues that this category of migrant transforms digital tools into effective resources to cope with precarious conditions resulting from temporariness, and overcomes 'information precarity'. More specifically, smartphones enables such migrants not only to connect with their families, other refugees and local people, but also helps them to obtain crucial information to plan their journey, and to survive during their (temporary) life in Turkey. Thus, social media and more broadly Internet represent 'safe places', by providing trusted and reliable information from kin-networks, ensuring contact with smugglers, and giving access to language support through specific apps. In addition, Şanlıer Yüksel demonstrates how refugees *en route* are able to take advantage of digital resources created through the collaboration of corporate and humanitarian actors (e.g. a website set up by the International Rescue Committee,

Google and Mercy Corps), and get practical information concerning refugee camps, medical facilities, refugee rights and responsibilities in Europe, etc. At the same time, this author questions to what extent digital space flows provide platforms for protest, thus *mediating* the possibilities for precarious migrants to acquire a political voice. While she stresses that technology enhances precarious migrants' participatory practices, Şanlıer Yüksel underlines that some migrants can refrain from political action, especially directed towards their country of origin, that might be life-threatening for them or their relatives. She highlights therefore that empowerment, in this instance, is closely related to agency, i.e. precarious migrants' capacity to make 'conscious decisions' to use ICTs to overcome migration process constraints, or not to use digital tools in order to avoid misinformation, or digital surveillance that can put their lives in danger.

Simon Noori (2022) deepens the discussion on visibility/invisibility in a situation which has been overlooked up until now whereby precarious migrants rely on smartphones to make their journeys as secure as possible when they are at sea. Grounding on his participation in the project WatchTheMed Alarm Phone, and based on a documentary analysis of several reports produced by its emergency hotline run by a transnational network of more than 100 activists from Europe and North Africa, this author analyses the use of smartphones and various applications during perilous boat crossings from the Turkish coast to Greece in the Aegean Sea. He illustrates how migrants on the one hand attempt to cross the sea undetected, while, on the other hand, they deliberately disclose their presence in situations of distress when it becomes vital to alert coastguards. Smartphones together with applications like WhatsApp and Facebook, as well as GPS devices, therefore become tools of strategic intervention that have transformed journeys in *digitally-mediated* transnational events. These tools have created possibilities for distressed migrants to connect with activists, and state actors. Thanks to advice given by members of Alarm Phone, migrants were able to deal with life-threatening situations. Moreover, data collected from their smartphones enabled activists to map and track migrants' position at sea and put pressure on Greek and Turkish coastguards to rescue those in danger. Furthermore, migrants could take photos during the coastguards' interventions, and forward them to Alarm Phone. As a result, transnational activists were able to document situations when migrants' boats were being pushed back, and prove human rights' violations (e.g. non-assistance to migrants in life-threatening situations). Thus, smartphones permitted activists to intervene in an area traditionally the preserve of state actors, by putting in place counter-information and counter-practices. In these conditions, Noori argues that digital technologies enabled new 'viapolitical' modes of intervention, by making migrants' journeys, vehicles and routes audible, visible and readable in certain critical scenarios. Importantly, he shows that migrants' agency does not disappear when they are confronted with life threatening situations at sea. In/visibility is a key factor in determining their survival as well as their journey's success. The role of activists and other civil society actors is particularly important in these circumstances. Indeed, the support of activists at Alarm Phone has allowed migrants to decide when and where to make themselves visible, within what the author calls 'tempo-politics at sea'. Sometimes, whenever possible, the key to success lies in waiting for the migrants' arrival in the Greek zone in order to demand the intervention of Greek coastal guards. By challenging the authorities in an intensively controlled border area, the Alarm Phone project has *mediated*

complex interconnections between the empowering use of smartphones, communication infrastructures, border control practices, and transnational humanitarian activism.

Agnieszka Radziwinowiczów (2022) depicts a different facet of the impact of technologies on migrants' lives, by focusing on the experiences of Mexicans detained in the United States of America (USA) before being deported. Based on ethnographic fieldwork conducted in a town in Southern Mexico, and life stories of former deportees living in this town at the time of the study, the article shows, on the one hand, that biopolitics are at the core of the surveillance processes in practice in detention centres. Thus, biopolitical interventions (e.g. dehumanising practices that intervene on detainees' bodies) are the expression of power and control over the 'bare life' of detained migrants to be deported, and are used to implement a disciplinary regime during detention. Biometric data (especially fingerprints) collected on arrival at detention centres becomes a 'biopolitical tattoo' (Agamben 2004) that follows the deportees in their future life. In fact, such data are *mediating* remote migration control, refraining deported Mexican migrants from returning to the USA through fear of being identified, arrested and punished more severely. In this way, the deporting State establishes a form of extended governmentality, as its capacity for surveillance expands over space (beyond national borders), and time (in the future). Interestingly, the author highlights that biopolitical technologies play a contrasting role. They dehumanise detainees through disciplinary technology-supported practices that contribute to psychological abuse, while also re-humanizing them through the identification of their bodies that enables their governmentality. At the same time, Radziwinowiczówna argues that this extension of sovereignty and governmentality does not deter all migrants. She shows that, confronted with the hegemony of a criminalising system, some immigrants develop strategies for resisting state migration control. For instance, they alter fingerprints or use gelatinous ones to make biometric identification difficult or impossible. However, when confronted with debilitating migration control regimes, deportable migrants rarely use such strategies, and in general, technological surveillance proves to be dramatically difficult to avoid.

In her article based on a multi-sited qualitative fieldwork conducted in France and Romania, Ioana Vrăbiescu (2022) focuses on the daily use of digital technologies by police officers and state agents involved in processes of 'crimmigration' within the Schengen-space (i.e. mobilising administrative procedures for deporting criminalised migrants across EU internal borders). In particular, she has observed the surveillance practices of street-level bureaucrats and analysed how French police and Romanian border control officers use digital tools, procedures and documents in different phases of the deportation process of Roma migrants from France to Romania. She has thereby put in evidence that conventional paperwork and digital-based methods are usually combined, and sometimes in a frictional manner, throughout the processes of policing, deporting, and operating data at the border. On the French side, while control technologies (e.g. fingerprinting, photographing, as well as other biometric data producing tools) are available, and their use is highly recommended, Vrabiescu shows that in practice, police work is mostly done in a traditional way (e.g. interventions in Roma camps and amongst migrants accused of petty crimes). Moreover, she highlights that sometimes, French state agents deliberately do not use technologies that facilitate deportation. Intra-European migrants with irregular status are often treated as (potential) criminals by the French authorities, and deportation orders are made based on administrative decisions, rather than judicial procedures. When

Romanian liaison officers are involved in operative actions on French territory, digital tools are used mostly for identification purposes, and comparison of biometric data is made thanks to data stored in national police databases. On the Romanian side, the border police is in charge of receiving deported Romanian nationals, and processing related administrative data. The author brings to the fore several deficiencies in the application of Schengen regulations, and in particular digital data to be filed in the SIS. She describes a selective use of digital tools, developing into informal *ad hoc* practices at the border. Lack of harmonised rules, difficulties of processing paper data files, problematic stigmatisation of criminalised deportees, and relatively rudimentary technological equipment complicate an efficient implementation of e-border policies, and lead to what the author calls 'the messiness at the border'. In this way, this paper contextualises the *technological mediation* of e-bordering procedures and demonstrates that the latter do not necessarily translate into harmonised European control (and policing) practices, thereby challenging the much claimed efficiency of 'smart borders' for migration control. Therefore, it highlights the role bureaucrats' practices play in making technological control effective, and allows us to hypothesise that deported migrants could take advantage of loopholes in the use of the SIS data at the border.

Drawing on a documentary analysis of legal texts and official statements, as well as reports from NGOs and media sources, Koca (2022) analyses how biopolitical technologies are used by Turkey across two critical borderzones, the Turkish-Syrian, and the Turkish-Greek borders. Understanding the intersection of security technologies and bordering processes as a *dispositif* in the Foucauldian sense, she argues that technological border control practices are constructed along two contrasting arguments, i.e. 'risk' versus 'humanitarian' discourses, even though the first discourse dominates over the second. The comparison of border control practices in the two studied borderzones also reveals different logics, and uses of cutting-edge technologies. On the one hand, security concerns, especially in relation to the Kurdish conflict and terrorism are greater in the Syrian zone, and serve as justification for the use of drastic, highly technologized and militarised border control measures. On the other hand, in the Turkish-Greek borderzone, border control practices aim to stop migration movements towards Europe by policing unwanted migrants. These two distinct contexts allow circumstantiating the ways technological *mediation* operates. In addition, this article highlights that several institutional, national, supranational, as well as private sector actors are involved in border control. For instance, this is especially the case for the Greek borderzone where the Turkish and Greek states control border zones crossed by migrants moving into Europe. Greece and Turkey work in close collaboration with the European Border Agency (Frontex) and NATO, which are actively involved in trying to stop migrant flows into Europe. Moreover, the EU has set itself up as a major player in the Turkish border control regime by pressuring for more restrictive controls in both border zones, but also by offering financial support, as well as cutting-edge technological devices. Toğral concludes by emphasising that technology-enabled bordering processes reflect the spatial extension of border enforcement. However, she also stresses that these processes are selectively permeable, as not all mobilities are qualified as dangerous (depending on certain characteristics such as religion, ethnicity, nationality, or economic power). At the same time, all these highly technologized border controls push migrants to shift their routes into Europe, rather than

halting them. Thus, even draconian restrictive border controls are unable to completely remove migrants' agency, as well as their possibilities of empowerment.

Ibrahim Soysüren and Mihaela Nedelcu (2022) have put in evidence three different types of instruments created by the European Union (EU) to deport foreigners: legal, operational and technological. They question the use of these instruments, by focusing in particular on the European Dublin III Regulation, and the Eurodac database (the first European Automated Fingerprint Identification System, conceived to prevent multiple asylum applications in different member states). Based on a comparative qualitative study conducted in France, an EU member state, and Switzerland, an associated country, this article highlights significant differences in the ways the two countries are implementing these instruments in their deportation procedures and practices. This comparison allows us to better understand that technologically *mediated* processes can vary and produce various outcomes in difference socio-political contexts. Surprisingly, the application of the Dublin III Regulation and the use of Eurodac are rather decentralised in France, which is known as a centralised country, while it is concentrated at the confederal level in Switzerland, a country where cantonal administrations have a large autonomy. Consequently, important differences can be observed between the ways French departments manage the Dublin procedures and the use of biometric data in the processing of asylum seeking requests. At the same time, in Switzerland, the federal State Secretary for Migration (SSM) is the only institution habilitated to process asylum applications. It systematically relies on biometric databases, especially Eurodac, to emit deportation decisions that cantons (simply) implement. These differences between the two countries generate contrasting reactions of resistance to deportation. Civil society actors play a more important role in France, and their actions are relatively more efficient, as they warn and steer asylum seekers to take advantage of un-harmonized departmental practices. In contrast, in Switzerland, the success of opposition movements is much more limited. Nevertheless, in both countries, whether they are alone or supported by different actors, deportable foreigners are using various strategies to escape deportation, even though empowerment is rather limited. These strategies, in conjunction with the complexity of Dublin procedures, reflect in the low deportation rates in both countries, even though Switzerland is clearly more successful in the application of the Dublin III Regulation and Eurodac.

Izabella Majcher (2022) focuses, from a legal perspective, on challenges with regard to data protection rules posed by the use of pan-European entry bans, i.e. sets of personal data that are inserted in the SIS, which allows the identification of a person with the aim of rejecting his/her entry to EU territory. According to the EU Returns Directive, a wide-Schengen ban can be introduced by a European State against third-country nationals who have not been given a voluntary return period, or who do not respect it. These people cannot enter Europe for up to five years and if they enter, they will be deported. This ban is only possible thanks to a European technological instrument, namely the SIS. Therefore, it opens the way for *technological mediation* in different socio-political contexts, again with varying results. The article emphasises differences amongst 30 Schengen member states regarding the application of this European-wide ban. For example, from all entry bans entered in the SIS database by these states, half were introduced by only two countries. It also points to the fact that the processing of personal data stored in this database is problematic both from the perspective of data protection law, and the respect of privacy

rights. Majcher suggests that data protection principles, such as purpose limitation and case-by-case assessment, are not always respected, and some of the alerts stored in the SIS database are excessive with regard to their main purpose of preventing the return of irregular migrants, in specific circumstances. Moreover, the fact that a wide range of actors are involved in the use of this European-wide ban makes it difficult to hold each of them accountable. In addition, the author argues that it becomes difficult to prevent or stop the use of SIS data for purposes other than the one for which they were initially collected. She underlines that SIS regulation potentially provides data disclosure, as the SIS allows states to store data for two different purposes related to migration control but also to law-enforcement. Finally, Majcher brings to the fore that new challenges will have to be addressed in the future, especially as the EU interoperability directive adopted by the European Commission in 2019 allows the interconnection of EU large-scale databases (such as the SIS, the VIS, Eurodac, the EES, …) in order to improve identification processes. She is therefore raising attention to the increased vulnerability, and discrimination of third country nationals. They are exposed to by these developments, which can severely curtail migrants' opportunities to avoid states' practices of surveillance and migration control.

* * *

The seven studies assembled in this special issue have opened up new and original empirical avenues, each illuminating, in a specific way, the impact of digital technologies on migration processes. In addition to shedding light on various socio-political contexts and the local/national/transnational environments, they have contributed understanding multiple uses of technology, which create not only new opportunities for precarious migrants, but also generate new challenges and barriers to their mobility through technological migration control instruments. These studies also highlight the *mediating role* played by ICTs for precarious migrants' empowerment and migration regimes. Finally, the insights gained from this special issue encourage us to argue that the *empowerment-control nexus* has the potential to become a heuristic lens to a better understanding of the impact of digitalisation processes on migration issues.

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