

ABSTRACT

XIONG-GUM, MAI NOU. Distributed Agency in Hybrid Space: Understanding the Digital Media Practices of Forced Migrants and Hybrid Mobile Capabilities (Under the direction of Dr. Adriana de Souza e Silva).

Forced migrants today engage in a combination of communicative and corporeal mobilities as their lives involve the use of mobile communication technologies, such as mobile devices and connected digital spaces, that afford them to stay connected across vast distances and hybrid geographies. But, access to devices and access to the communication and mobilities infrastructures that support mobile communications and mobilities is unevenly distributed from one environment to the next—engendering differential power relations. Furthermore, although not every forced migrant is able to use digital media, this research highlights that most forced migrants' lives are conditioned by digital media through mobile bordering technologies that are designed to prevent and regulate their mobilities through informational and geographical spaces. Thus, forced migrants must now find ways to move through hybrid spaces and hybrid geographies. For instance, at some point a forced migrant might pass through a physical border but later experiences immobilities as they try to pass through informational systems or digitally networked systems. Informational spaces and geographical spaces each serve their own purpose in the forced migration experience.

As such, this dissertation investigates the distributed agency of forced migrants in hybrid space. Using the methods of critical cultural criticism, this project examines the informational and infrastructural nature of mobility systems and the means whereby digital and mobile media are used by and used on forced migrants. More specifically, this project focuses on the agency of forced migrants and the political, economic, civic, and social practices and institutions—or the material-discursive sociotechnical assemblages—that shape and materialize into forced migrants'

relative capacity to move freely (or not) through hybrid spaces. These spaces are engendered through mobile technologies, co-present users, and the minimum infrastructure to support this interplay such as access to internet and inter-net capable devices, and they are able to network local and distance informational and physical spaces—creating ambient power relations that can be maximized in either or both domains.

To describe this phenomenon, this project develops an original theoretical framework to understand the distribution of agency in hybrid space using theories and concepts drawn from mobilities studies, digital migration, mobile communication, and critical theory to understand how movements are constellated through hybrid spaces and hybrid geographies.

Moreover, this dissertation develops the concept of hybrid mobilities as a tool to understand the emergent and mobile nature of power as it is implicated in social interactions that occur in and occur in between hybrid spaces. Additionally, this dissertation reflects on mobilities as a material-discursive formation that is enabled through and by sociotechnical assemblages, infrastructures, social and political institutions, histories, ways of knowing, and practices. In conclusion, technologies (both material, discursive, and material-discursive) are not imbued with any special power, but they are moving constellations and materializations of relationships and practices that produce and are produced by the conditions that limit or enhance the actions and affordances of individuals in society. Hence, the agency of forced migrants is relational to both the existing infrastructures of an environment and the degree to which forced migrants are able to turn to the technologies of the self as a new form of governmentality and engage in creative appropriations to procure affordances that may not be immediately present in the environment. This original theoretical framework also includes the environment and the digital connections of an individual beyond producing points of subjectivity for them; therefore, this theoretical

framework was used to explain how forced migrant agency is distributed in a new media context where physical geographies and digital space both play a distributed and ambient role in the forced migration experience. This work can be used to better understand how we conceptualize agency among agents without universalizing their experiences or capabilities.

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Distributed Agency in Hybrid Space: Understanding the Digital Media Practices of Forced
Migrants and Hybrid Mobilities

by
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DEDICATION

To the vanguards and the late home comers.

BIOGRAPHY

Mai Nou Xiong-Gum holds a double Bachelor of Arts in Political Science (with departmental distinction) and French; a Master of Arts in English; and, now, a Doctor of Philosophy in Communication, Rhetoric, and Digital Media. She will be joining the Communication Studies Department at Furman University as an Assistant Professor of Civic Communication Processes in Fall 2020.

Xiong-Gum's research explores the topic of forced migration, kinopolitical infrastructures, mobility systems, mobile technologies, mobile communication, and spatial relationships in relation to power and agency. She is interested in issues concerning the co-creation of technologies, cultural practices, and communities—especially among diasporic and displaced and emplaced communities. She has taught courses on rhetoric and multimodal composition, technical communication, internet and society, and has developed a special topics course in digital rhetoric studies titled, “Digital Witnessing and Civic Media.”

At NC State University, Xiong-Gum was an executive member of the CRDM Student Association and in Rhetoric Society of America (RSA) Chapter. She has organized and co-chaired two regional conferences sponsored by RSA: “Rhetorical Listening: An unConference for Social Justice” (with Laura Roberts, 2018) and “Keywords: Continuing Rhetoric's Conversation” (with Laura Roberts and Matthew Halm, 2019). Among other activities, Xiong-Gum (with Adriana de Souza e Silva, 2020) has had a paper included in the “Top Papers” at the International Communication Association conference (ICA) in the Mobile Communication Interest Group. She has published in *Rhetoric Review* and has forthcoming publications in *Communication Theory*, *International Journal of Communication*, and *Kairos*.

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LIST OF ABBREVIATIONS

1G	First Generation wireless telephony (radio signals used)
2G	Second Generation wireless telephony (networks become digital, texting)
3G	Third Generation wireless telephony (internet capable)
4G	Fourth Generation wireless telephony (increased internet browsing speeds)
CBP	The Customs and Border Patrol (USA)
CBP ROAM	The Customs and Border Patrol Reporting Offsite Arrival Mobile App
CCTV	Closed Circuit Television (monitors public spaces)
COP	Common Operating Picture (display of real-time border movements)
EB-5 Visa	Employment-Based Fifth Preference or Immigrant Investor Visa Program
Eurodac	European Asylum Dactyloscopy Database
Eurosur	European Border Surveillance System
EU	European Union
Frontex	European Border and Coast Guard Agency
FCC	Federal Communications Commission
GIS	Geographic Information System
GPS	Global Positioning System
GUI	Graphic User Interface
ICE	United States Immigration and Customs Enforcement
ICTs	Information Communication Technologies
LiDAR	Light Detection and Ranging
LPFM	Lower-Power Frequency Modulation
MPC	Mobile Passport Control
PDA	Personal Device Assistant
QR	Quick Response
RFID	Radio Frequency Identification Tags
SBI-Net	Secure Border Initiative Network
SIM	Subscriber Identification Module or Subscriber Identity Module
SUV	Sports Utility Vehicle
UN	United Nations
UNCHR	United National High Commissioner for Refugees
UNICEF	United Nations Children's Fund
U.S. or USA	United States or United States of America
USCIS	United States Customs and Immigration Services
VOIPs	Voice or Video Over Internet Protocol

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Introduction: The distribution of agency in hybrid space

Forced migrants is a specific label that refers to asylum-seekers, refugees, stranded migrants, children who have been left behind, children migrants, and those internally displaced (Leurs & Smets, 2018). Forced migrants today engage in a combination of communicative and corporeal mobilities because their lives involve technologies that afford them to stay connected or build a sense of community across vast distances, and this is done through the aid of mobile phones. For some, virtual communities or long-distance relationships can be sustained while on the move; information can be retrieved about routes and distant locations; or, wayfaring can be made easier through networked information and GPS or GIS enabled applications. But access to devices and access to the infrastructure that support mobile phone use are unequally distributed from one environment to the next. Therefore, not all forced migrants have the same migration experience as a result of differences in the infrastructure of environments and access to mobile technologies. These factors are also compounded by where forced migrants are migrating to and from. Although the mobile phone has received attention for how it helps forced migrants with mobility, it also threatens mobility when used for tracking and surveillance. Moreover, not every forced migrant has a relationship with the mobile phone, but most forced migrants' lives are still connected to mobile technologies through bordering technologies that are designed to prevent irregular or illegal migrations. Some strategies of bordering technologies include tracking migrants through the very information signals used in their mobile communications. For instance, along the U.S. Mexico border, cell phone signals can be triangulated to locate and prevent migrant mobilities (Berkowitz et al., 2019; Bier & Feeney, 2018; Gaffary, 2020). Additionally, other strategies like the "smart wall" include the use of mobile technologies such as drones, LiDAR detection, satellite imagery, networked databases, and standard border patrol

agents with mobile phones and or walkie-talkies. These are mobile technologies, beyond the mobile phone. By this measure, mobile technologies are deeply embedded in the experience of forced migration, although each migration experience is different: even if forced migrants cannot use mobile media, forced migrants at some point in their migration experience will interact with mobile media in the form of mobile bordering technologies.

Forced migrants are embedded in environments in which mobile technologies pose both affordances and consequences that affect their potential for hybrid mobilities. Case in point, in rural or dessert landscapes close to the U.S. Mexico border, it is difficult to access devices, or there simply isn't the infrastructure to support internet connectivity or mobile phone use. This means, while forced migrants in the U.S. Mexico border landscape might be able to engage in physical mobilities across the desert terrain, it is more difficult for them to engage in digital connectivity or virtual mobilities (Kellerman, 2006, 2012), which is also a kind of mobility that is similar to imaginative mobilities or imaginative travel (Sheller & Urry, 2006). However, virtual mobilities differs in that it re-arranges material spatial relations. For example, mobile banking is a kind of virtual mobility that re-arranges the material relations of money and funds. When forced migrants are digitally connected, they are actively tending to their networked, local, and distant relationships. Hence, the communication (cellular towers) and mobilities infrastructures (roads or walking paths) that embedded and overlaid onto this dessert landscape becomes a kinopolitical infrastructure that forced migrants must find creative ways to move within and through. The dessert itself is a kinopolitical infrastructure that regulates the ebb and flow of digital and physical (or, *hybrid*) mobilities.

This dissertation is inspired by the mobilities and immobilities of forced migrants across various environments, especially hybrid and networked spaces. Environments and the

infrastructures therein play a crucial role in the shaping of capabilities: environments shape what forced migrants can and can't do and they shape how forced migrants attune to their situations. Therefore, forced migrants' relationships with social, technological, and political elements (or, sociotechnical assemblages) in an environment push and pull on their hybrid mobile capabilities—referring to the agency or capacity to perform mobilities within and across the earth and digital media. This dissertation explores how sociotechnical assemblages and networks of actors come together to (re)distribute forced migrants' agency in the context of hybrid space. This space requires a minimum infrastructure such as access to devices and access to internet to afford the interplay of mobile technologies and co-present users that network local and distant social spaces (de Souza e Silva, 2006).

Thus, I explore the topic of forced migrants and their interactions with both mobile technologies and bordering technologies during migration. I examine how these technologies afford forced migrants' the agential capacity for hybrid mobilities. Mobility systems are informational and infrastructural (Sheller, 2014). In relation to this, mobilities *in this study* refers to the ability to enact communicative and corporeal mobilities through digital connectivity; through bodily movements across physical territories; and through hybrid mobilities that include both digital and physical mobilities. Working from the interdisciplinary fields of mobilities studies and mobile communication, I offer an intervention for digital migration studies by connecting concepts from these fields to issues of digital migration. As such, I am concerned with understanding the distribution of agency among forced migrants in the context of hybrid space. My central argument is that mobile media, such as mobile phones and bordering technologies, redistribute agency in hybrid space by reconfiguring and networking power and spatial relations. In turn, this reconfigures forced migrants' agential capacity for hybrid

mobilities. However, due to the unique composition of environments, forced migrants have had to engage in creative appropriation to secure the minimum infrastructure for enacting hybrid space. For instance, Bar et al. (2016) describe that some users have tried to add an extended antenna to their mobile phones in the hopes that it will get a better signal.

To develop this argument, I use critical cultural studies as a method of analysis as I examine the technological cultural dynamics of forced migrants in hybrid space. My theoretical framework is informed by mobilities studies, Michel Foucault's theory on technologies and subjectivation, and the ideas of creative appropriations and hybrid spaces in mobile communication (Bar et al., 2016; de Souza e Silva et al., 2011; de Souza e Silva, 2006).

Understanding who is a forced migrant

The ways that we collectively describe “migrants” or people who have been displaced or are on the move is not consistent. There is no consensus in how we describe and theorize “migrants.” Popular press headlines use a range of adjectives to inconsistently describe “migrants” such as “illegal immigrants,” “asylum-seekers,” or “refugees.” Scholars have also used similar adjectives. More recently, social scientists have started using the term *forced migrants*. However, none of these terms are synonymous, each term is associated to a different context. For instance, the UN mainly uses “asylum-seeker” or “refugee” because they are concerned with migrants who need legal protections. Meanwhile, the UN is recognizing that social scientists have been using the term “forced migrant.”

The most popular of these terms used by lay audiences have undoubtedly been “refugee” and “migrant” because these are often the terms that are most used by news reporters and news outlets. However, according to the United Nations High Commissioner of Refugees (UNHCR),

these two terms are not interchangeable. The UNHCR (2016) states, “Confusing them [the terms refugee and migrant] can lead to problems for refugees and asylum-seekers,¹ and for States seeking to respond to mixed movements, as well as to misunderstandings in discussions of asylum and migration.” This is because refugees, unlike migrants, are specifically defined, recognized, and protected in international law: they are people outside of their country of origin because of fears of being persecuted.² As such, interchanging the term “refugee” with “migrant” takes attention away from the specific legal protections that refugees have as a basic universal human right—which, unfortunately, not all migrants legally possess.

Migrant is a vague term because migrants are not a homogenous group, and they do not encounter homogenous experiences. Migrant experiences change radically from one environment to the next. Migrant can refer to people enjoying elite mobilities (Birtchnell & Caletrío, 2014; Sheller, 2018a) such as the reality television characters in *Ultra Rich Asians* who hop on private planes for instant international travel. These kinds of migrants have easy access to travel documents, cars, and drivers. They have travel options that are catered to them such as EB-5 visas or mobile applications that facilitate their expediency through the border. Yet, at the same time, a migrant can refer to international students. Or, more so (in the U.S. context), it can refer

¹ Asylum-seeker is another popular term that we have seen used as well. It has connections to the term refugee and refers to persons who have moved across international borders to seek out the refugee status and its protections as afforded by the 1951 Convention. However, for the United Nations, it is clear that “refugee” remains the primary focus when it comes to deeply theorizing the possibilities of the legal and lived conditions of people on the move precariously.

² Article 33 comes as a product of the 1951 Convention on the Status of Refugees and the 1967 Protocol which have resulted in a universal definition of a refugee and basic refugee rights and have resulted in a standard of obligations due to refugees such as the principle of *non-refoulement*, meaning that with refugee status, the refugee will not be returned to the country from which they fled.

to “illegal immigrants” arriving from Central American countries (Venezuela, Columbia, Honduras), Haiti, or Cuba—as *some* examples. So, “migrant” always requires a definition in terms of who the term refers to. In fact, Keon Leurs and Kevin Smets (2018), the editors of the special issue on “Forced Migration and Social Media,” called attention to the need for more consistency in the term used to describe “migrants.” However, even within that special issue, there was still a range of terms used.

“Forced migrant” is a social science term and has no legal affiliations (UNCHR, 2016). The UNCHR does not advocate the use of the term “forced migrant” (as used by social scientists) or “migrant” (as used in a general manner) because they carry no legal weight, and the term refers to too wide a range of different movements and situations. But the UNCHR does recognize that social scientists have used the term “forced migrant” to describe people who have been displaced by environmental disasters, conflict, famine, or large-scale development projects. Although “forced migrants” provides more clarity than “migrant” alone does, this term is still open-ended. It can refer to different kinds of displacements or involuntary movement that occurs across international borders and or within a single country. However, it’s exactly for this latter reason that the term “forced migrant” is most useful to social scientists such as communications, mobilities, and migrations researchers. In the term forced migration, there is the potential to explore the mobilities and immobilities of people in relation to mobility regimes, which compliments my theoretical framework.³

³ Although it should be noted that when I am discussing the studies conducted by other researchers, I use the term they used in their study. Otherwise, I have used the term forced migrant throughout this dissertation.

Understanding distributed agency through the example of Behrouz Boochani

In January 2019, Behrouz Boochani won two Australian literary prizes. The first one was in the category of best non-fiction worth \$25,000 AUD, and the other was for the prestigious Victorian Literary Award worth \$100,000 AUD (Dwyer, 2019) for Boochani's (2019) book, *No Friend but the Mountains*. But, Boochani is not allowed passage into the country to accept these awards in person (Gessen, 2019). In fact, Boochani, a Kurdish-Iranian asylum-seeker, is barred from entering the Australian borders (Shapiro, 2019; Westerman, 2019). Due to radical immigration policy changes, Australia struck a deal with its former colony Papua New Guinea to allow asylum-seekers such as Boochani who arrive at their borders to be relocated to Manus Island while they await a decision on their asylum claims for refugee status (Kindangoor, 2019). It is on Manus Island that Boochani wrote his award winning novel, one text message at a time, sent as a series of messages through the mobile phone application *WhatsApp*. This encrypted application afforded Boochani the privacy to compose with sheer honesty about the conditions on Manus Island without the consequences of being reprimanded (Tofighian, 2018). In total, he spent five years writing *No Friend but the Mountains*, which would not be possible without an entire network of resources from other humans, to non-human devices, the environment, mobility regimes that create mobilities and immobilities for people, the infrastructures that support internet connectivity, and the affordances of hybrid space.

This novel, although solely authored by Boochani, comes together as a result of what Jane Bennett (2010) refers to as a *distribution of agency*. The book is made possible as a distribution of efforts and resources. Boochani's text messages had to be assembled and organized, so he texted them to Moones Mansoubi who then arranged the text messages according to his instructions. Having access to his mobile phone and internet afforded this

possibility. As such, distributed agency is the result of a set of related assemblages or a constellation of networked events, things, affects, and forces—or “vibrant matter”—that come together to bring about phenomena. The capacity to do things is what makes matter vibrant. This very capacity to do things is also what makes matter *inherently creative*, producing consequences and affordances: for example, “there is no material point that doesn’t act on every other material point” (p. 77), hence a constellation of assemblages. In this manner, no one thing moves on its own, but all things are in constant and relational movement. There are also some things that must remain immobile in order for other things to be mobile, so with mobilities, there are always also immobilities (Hannam et al., 2006; Adey, 2006). The two tell on each other, as well as enable each other.

The distribution of agency depends on environments. However, it is to be noted that different things (including people and technologies) have different types of and degrees of power depending on the time, the place, and what resources are available where things take place within (p. 108). For this reason, I emphasize that environments are different from each other—as in they have different things present (from waterways, roads, electrical grids, cell towers, to sensors) that shape the affordances or what can be done. For instance, waterways can pose as a navigational difficulty for migrant crossing. Environments are composed differently: some are imbued with infrastructure that sustain the transmission of signals that produce signal territories (Parks, 2013; Parks & Starosielski, 2015), and some are represented on the screen or are digitally annotated kinopolitically to produce uneven mobilities and spaces (Sheller, 2009; de Souza e Silva & Frith, 2012). Moreover, even within the relatively same environments, the absence or presence of a technology can reconfigure a person’s experience of the same space and reconfigure the distribution of agency, as hybrid space is activated or deactivated (Gordon & de Souza e Silva,

2011; Bennett, 2010). For example, when Boochani's mobile phone was confiscated, the same environment in which he had been writing in changed because he could not interact with hybrid space through his mobile phone. He had to change how he interacted with the outside world (use paper to write with no instant audience) until his mobile phone was returned whereupon he could write through text messages to his instant audience.⁴ Therefore, the materials (including infrastructures and technologies) that constitute an sociotechnical assemblage determines the distribution of agency—in other words, the things (especially technologies and practices) present are what bring about the consequences and affordances of a situation, which set up or stage the conditions for what a person can and cannot do.

Beyond a network of resources, the agential capacity to produce Boochani's novel comes as the result of a sociotechnical assemblage, and, considerably, this is what agency is negotiated through. The exigence for writing in the first place is due to the social and political policies put in place, in addition to the technologies and people. The *1951 Convention on the Status of Refugees* and the *1967 Protocol* are international community standards in regard to the treatment of refugees. Signatories to these accords are obliged to give asylum-seekers the right to apply for refugee status. The Australian government has abided by these accords, but with the addition of anti-immigration sentiments, they have also circumvented these responsibilities by using an offshore holding facility such as the one on Manus Island and have employed the strategy of long

⁴ Boochani's mobile phone was confiscated from him during a prison raid, and as a consequence of not having access to his mobile phone or internet, he could only afford to write on paper. Later, as an affordance of regaining access to this mobile phone and internet, he dictated his writing it to Mansoubi using the voice messaging function on *WhatsApp* to cover the lost time (Tofighian, 2018).

wait times. Boochani's immobility as a result of the island also contributed to the emergence of the book. He and other forced migrants' agential capabilities are conditioned by sociotechnical assemblages—a relation of material things including people, physical geographies, and technologies and discursive things that include laws, policies, procedures, customs, sentiments and so on. Thus, sociotechnical assemblages do not only account for the things present in an environment, *they also serve as the infrastructure* for the distribution of agency.

While critics have described Boochani's work as emerging from the site of state violence and antagonisms against people crossing borders for safety and freedom (Kindangoor, 2019; Tofighian, 2018), I see Boochani's work as emerging from the distributed agency of a sociotechnical assemblage, in which Boochani is able to appropriate space by using the mobile phone and internet to interact with hybrid space and by appropriating technologies (including the affordances of the mobile phone) to use compose his novel, *No Friend But the Mountains* and even his earlier short film produced on his mobile phone, *Chauka, Please Tell Us the Time* (Boochani & Sarvestani, 2017). His creative artifacts circulate in the public sphere, while he remains detained on Manus Island. The artifacts, nonetheless, give the public insight into what asylum-seekers experience. For example, Boochani writes:

A cage—high walls—wire fencing—electronic doors—CCTV⁵ cameras

Surveillance cameras gazing at 20 individuals

⁵ CCTV is a closed circuit television, a self-contained surveillance system that includes cameras, recorders, and display monitors (PC Magazine, 2019). The signal for CCTV is not broadcasted openly, so what is recorded or captured for viewing is only viewable for a specific audience, although most of the time CCTV is used to monitor the public or public spaces.

Men wearing oversized garments

Men with loose-fitting clothes hanging off them

Early in the morning, at six, guards came in like debt collectors and heaved us out of bed. Within a few minutes they took us to a tightly confined cage. It is almost two hours since they brought us here. These hours have been really tough. It is hard being imprisoned... being locked in a cage.

This excerpt describes his experience and gives the public a chance to see the myriad of technologies involved in the process of waiting for refugee status. Those who want to exercise the right to seek internationally recognized protection as a “refugee” are treated as if they have been the ones committing crimes. As if prison guards and isolation are not enough, there is also a layer of electronic eyes (CCTV) gazing at them, as Boochani has described. In the United States, we, too, have seen children who are seeking “refugee” status be separated from their families and locked in cages⁶ (Graham, 2018; Sacchetti, 2019). It can seem hopeless, but as Boochani and the others who I discuss throughout this dissertation have shown, there are instances when forced migrants appropriate technologies and their environments to attune to their situations, to survive⁷—and survival, although it’s not enough, is hopeful in situations of forced displacement.

⁶ As of 2018, there are 69,550 migrant children held in U.S. government custody, from infants to teenagers (Gaviria, 2018).

⁷ Also see, de Souza e Silva and Xiong-Gum (2020, forthcoming) as they discuss how displaced and emplaced persons such as refugees and slum-dwellers have appropriated technologies and their environment to attune to situations of economic, social, and political hardship for survival in a networked world.

In connection to survival and as part of my theoretical framework, Foucault (1988) says that there comes a point in time when people will stop subjecting themselves to governmentality (or forms of authority) and will turn to themselves—to the *technologies of the self*—to enact some kind of change to the network of relations that they are embedded within. This change can come in the form of what mobile communication scholars refer to as creative appropriations (Bar et al., 2016; de Souza e Silva et al., 2011), which involves taking an existing technology and altering its design to engage a different set of capabilities or affordances. Or, this change can come from engaging in “misconduct” or conduct that does not follow the logic of the dominant forms of authority or “normal conduct.” For example, Boochani does both when he protests the authority of the prison guards who govern over him and asylum-seekers alike. But there is only so much he can do. So, via his mobile phone, he writes and produces digital stories and films. He also engages with the public through Twitter. Although, he has unique affordances that not all forced migrants have access to, these actions represent *the technologies of the self* and *creative appropriations*. He doesn’t believe that the authorities on Manus Island should continue to have such abusive power over the detainees (who are actually asylum-seekers despite the term “detainee”). The prison guard practices and the government’s treatment of the “detainees” are corrupt and a human rights violation, and so—within his agential capabilities—he has appropriated mobile technologies as a way to communicate to a wider audience about this social injustice and abuse of power.

Theoretical Framework: Agency as a matter of things coming together

As the overarching theme of my theoretical framework, agency is a matter of things coming together. Everything comes together to make the actions of humans and nonhumans

possible. According to Foucault (1988), technologies are not only concrete (or material) things such as hammers, devices, or hardware, but they are also abstract (or discursive). They can come in the form of knowledge, discipline, governmentality, and or biopolitics. These technologies in are not “power,” but they are designed to produce and to limit the actions and affordances of individuals in society: they produce points of subjectivity for users. Through the process of simultaneously producing each other, or *intra-action* (Barad, 2003), what emerges is an *agential realism*—whereby the agency of things is (re)distributed in relation to each other. So, it is not that the hammer is (re)produced by the user, but it should be considered that as the hammer is being (re)produced by the user, the user is also being (re)produced in relation to the hammer. As a result, an individual’s potential to do something—or, their *agency*, is always relational to the technologies used on them and by them. This is because technologies are inherently configured with power relations—which is an idea shared by critics such as Foucault (1988) and communication scholars who study the diffusion and innovation of technologies (Rogers, 1962) and subsequently those who study creative appropriations (Bar et al., 2007, 2016; de Souza e Silva et al., 2011; Wirth et al., 2008).

Forced migration and digital media

According to Leurs and Smets (2018), forced migrants are increasingly using digital media in their migration experience, which has spurred interest in the in digital migration studies as a field. But, the “digital” in digital media, in their conception, is too limited. It is limited to the use of social media and mobile phones. For instance, Mancini et al. (2019a) conducted a study that was designed to analyze and assess the existing literature on digital migration. The method included conducting a literature review using the search combination “*medium + target*” in

which *medium* represented cellphone, mobile phone, smartphone, and variable terms related to the mobile phone while a *target* represented asylum-seeker, refugee, migration, migration, and unaccompanied minor. Although this is only one interpretation of the field, this study along with others I'll later review demonstrate that the field has an analytical focus on mobile media such as mobile phones (and subsequently its affordance features such as social media and location-based applications)—under the term digital media. This not only limits what can be studied, but it also limits what we can understand about the extent of digital media's (especially other mobile media such as bordering technologies) implication on the forced migration experience, which also include the use of mobile bordering technologies, the unique infrastructural composition of environments, and the appropriations migrants must enact to gain access to—or avoid—hybrid space and infrastructure.

The need to incorporate hybrid space into digital migration studies

In a publication, definitively titled, “Doing Digital Migration Studies: Methodological Considerations for an Emerging Research Focus,” Leurs and Prabhakar (2018) identify three approaches to digital migration research: digital media-centric cyber culture studies approach to examine *migrants in cyberspace*; non-digital media-centric ethnographic approach to examine *every day digital migrant life*; and digital media-centric approach to examine *migrants as data* (p. 250). Although these approaches offer a holistic perspective in understanding the role of digital media in the lives of migrants in general and not specifically to forced migrants, it can still be inferred that these approaches operate on a clear division between the digital and non-digital and, thus, there is a clear division between the digital and physical spaces of sociality. This means that currently the field superimposes a border between the physical and the digital

that does not truly exist in the lived experiences of forced migrants. For example, the use of “cyberspace” demonstrates the need to incorporate media theories of hybrid space into digital migration studies. The use of “cyberspace” suggests that scholars are still thinking of the internet as a space disconnected from physical space.

Previously, internet users connected to the internet using a stationary desktop, so there was a sense of “going online,” as though it were a place separate from a user’s immediate space because people use their computers and then walk away from them or shut it off. This online space was popularly referred to as cyberspace (Markham, 1998). However, with the onset of internet capable mobile technologies and multi-user interfaces, the division between life online and offline were no longer realistically separable. de Souza e Silva (2006) argues that online social interactions are implicated in offline social interactions and vice versa. Meaning, social relations now take place in hybrid spaces that are created by local and distant social connections. For example, the cell phone affords access to hybrid space. Boochani engenders hybrid space through his cell phone and is able to engage in a distant relationship with his editor while he is still located on Manus Island. Although there are physical borders, the border between here and there or physical and digital is blurred. There is no shutting off one space from another. For this reason, there is a need to understand the consequences and affordances of digital and more specifically mobile media such as bordering technologies to understand the implications of media that does not shut off and that is pervasively networked.

As is, studies on “digital migrants” have come close to including the idea of hybrid space, but more attention is still needed. For example, studies have focused on the role of ICTs among digital migrants (as “e-diasporas”) in maintaining remote relations, whereby migrants use communications as a stand-in for everyday proximity that people would engage in if they were

not separated by distance (Diminescu, 2008). But this study does not consider how ICTs also engender a continuously on (or hybrid) space of social contact. Or, other studies have focused on digital migrants' (as "digital diasporas") social media and internet activity through Google search results, Facebook pages, and Instagram posts to track and visualize the "digital traces" of diaspora groups such as the Turkish migrant community in Denmark (Alinejad et al., 2019). However, this study does not consider that the "digital traces" are also corporeal traces—wherein digital posts that are made in one location can also reflect that the person's body was also located in that location. Following the work of Dana Diminescu (2008), other scholars have studied digital migrants (as "connected migrants") who are connecting with each other through social media and mobile phones while maintaining relationships in both their home country and their arrival country (Leurs & Ponzanesi, 2018). This study also comes close, but it does not consider that that connection is a hybrid space itself; instead, it is conceived of as a virtual community. Although it wasn't the intention of these studies to focus on hybrid space, this is to say that the concept of hybrid space has a place in digital migration studies to de-center the division between physical and digital spaces.

The need to include mobile bordering technologies

Mancini et al. (2019a) recently criticized that digital migration studies, which has a focus on forced migration, does not actually consider the exigence and challenges of forced migrations. They explain that migration is tangled in multiple systems including politics, economics, social conflicts, natural disasters, famine, etc. Yet, the field mainly analyzes communication practices that overshadow the analysis of mobilities practices. As a result, studies focus on virtual mobilities, or the mobilities of information (Kellerman, 2006), without considering mediated

mobilities that are constituted and coordinated in physical and digital spaces (Keightley & Reading, 2014). Because hybrid space distributes and makes relations that are far away closer, and it incorporates ambient power relations into the environment, I argue that mobile bordering technologies need to be considered as a part of the sociotechnical assemblage of forced migrants because they can also be used to engender hybrid space. Again, although some forced migrants do not have access to the affordances of mobile phones and thereby hybrid space, most forced migrants will experience some kind of mobile bordering technology. For instance, “boat migrants” may or may not have access to mobile phones or mobile communication, but they will always be subject to surveillance technologies such as satellite imaging that are designed to detect them and prevent them from entering the European Union borders (Alijadid, 2018; Ashutosh & Mountz, 2012). Although Latonero and Kift (2018) examine the consequences of using mobile phones and point to the risks of surveillance through use, more attention is needed to highlight mobile surveillant assemblages (Vukov, 2016; Vukov & Sheller, 2013) that are emerging as part of “smart borders.”

Hybrid space’s emphasis on connected presence and enfolded space have a wide implication for forced migrants in terms of distributed agency. As bordering practices engage in the use of mobile communication technologies such as the combined use of drones, sensors, satellite imaging, thermal imaging, and other various networked information systems, bordering practices extend their kinopower in hybrid spaces. *Kinopower* operates on a dual logic of expansion by expulsion in which some members of society are disposed of their status in order for social power to be expanded elsewhere (Nail, 2015, p. 36). Kinetic structures such as borders are put into hybrid space through networked communication systems and mobile technologies to regulate the mobile capabilities of forced migrants. For example, reports have illuminated

situations in which bordering practices are shifting to hybrid space. Instead of building a border wall, the Burmese government has instated a SIM-card ban on all non-citizens. The effects of this policy create a “digital” border that works in concert with physical borders for Rohingya refugees (Beech, 2018; Beech & Nang, 2019). It is a hybrid border that disconnects access to communications and mobility infrastructures, thereby amplifying the distribution of bordering technologies’ reaches. So, here we have a situation where refugees are inside the borders of a country, but they are strategically isolated from the society by being banned from internet and mobile communication, creating an islanding effect (Sheller, 2013b). In this respect, mobile media are sources of kinopower because they can both do the work of expansion and expulsion. Kinopower operates on a dual logic of expansion by expulsion in which some members of society are disposed of their status in order for social power to be expanded elsewhere. Bordering practices, then, too, take on the qualities of users of hybrid space and *are capable of being mobile*, emergent, networked, ambient, and—most alarmingly of all—co-present and “always on.” The border’s hybrid space condition of being continuously co-present and on is an ethical and civic issue because it positions everyone, including citizens, to the ambient power relations of the border.

The need to consider the unique composition of environments

Forced migration is embedded within complex hybrid mobility and sociotechnical systems, thus, it is worthwhile to also consider the uniqueness of the environments in which forced migrants encounter. This is because, as previously mentioned, each environment affords differential access to infrastructure. Although the internet (digital connectivity) is a global phenomenon, the ways of using and appropriating it can’t be seamlessly transported from one

location to another. For example, Gordon and de Souza e Silva (2011) argue that the internet is all around us, but access to it is not. Access depends on the existence of infrastructure. Thus far in the digital migration literature, researchers have noted that forced migrants have differential access to the infrastructures that enable internet connectivity, but they have not yet connected differential access to the unique infrastructural composition of environments. For example, Alencar et al. (2018) argued that mobile phone connectivity is fragile and hinges on access to infrastructure but did not identify any specific infrastructures. Similarly, some researchers have coined the term “digital passage” to refer to the infrastructure that forced migrants use during migration such as the internet and social media (Gillespie et al., 2018; Latonero & Kift, 2018; Leurs, 2015), but these studies do not consider the infrastructures implicated in the hybrid realities and the hybrid geographies in which migration and mobilities take place (Sheller, 2014; Sheller & Urry, 2006).

The need to consider how forced migrants appropriate for access to hybrid space

Because each environment is composed as a unique set of infrastructures from the presence of electrical grids, to roadways, to cell towers, digital migration scholars need to consider how forced migrants attune and appropriate to environments that don't allow them to have access to the internet. Studies indicate that some migrants do not have access to mobile phones or internet-capable mobile devices. For example, Hayes (2019) identified that forced migrants in the Kurdistan region used 2G phones. Newell et al. (2016) reported that forced migrants traveling from Central America towards the U.S. Mexico border only used mobile phones before their migration for fear of becoming a target of the cartels. On the other hand, in the absence of access to charging stations for wired electricity, the refugees on the Azraq

Refugee Camp in Jordan have taken apart solar cells and rewired them with other parts to construct rooftop solar panels to increase access to charging (Mascisaac, 2015). In relation to this, creative appropriations is defined as a cultural process that addresses the relationship between users, society, and technology and mainly argues that there is a configuration of power within a technology or technological system (Bar et al., 2007, 2016; de Souza e Silva et al., 2011). Thereby, as users misuse or appropriate mobile technologies for their own needs, they are actively engaging in a power struggle through the reconfiguring of the technology itself. The example in Jordan illustrates that gaining insight on the creative appropriations of forced migrants can give researchers insight into the wider challenges that forced migrants face in the context of living and migrating through hybrid realities.

Contributions

My main goal in this dissertation is to develop a theoretical framework for understanding how agency is distributed in hybrid space in the context of forced migration and its relationship to mobile technologies. My framework employs theories and concepts from critical cultural theory, mobilities research, and mobile communication that will be useful for digital migration scholars who want to consider the larger sociotechnical and mobilities systems that are entangled in the forced migration experience. Furthermore, my framework centers forced migration as phenomena that occurs in hybrid space, which will change the theoretical direction of the current research trends that treat digital migrations as an isolated issue of “cyberspace.” In addition to this, I identify and focus on new research needs and concerns that will enrich future scholarship through my distributed approach to understanding the hybrid migration experience—particularly through my analysis of mobile bordering technologies and its redistribution of power through

hybrid space. Beyond my theoretical framework, this dissertation's most productive move is its intervention in the fields of mobilities studies and mobile communications, as well as migration studies. Through this intervention, I push scholarship towards considering how digital media use has rippling affordances and consequences for all forced migrants, not only the ones who use digital media—and has rippling affordances and consequences in hybrid spaces and realities.

As such, my main overarching goal is to investigate *how forced migrants' agential capabilities are formed and distributed in relation to their sociotechnical assemblages*. I explore the following specific research questions respectively in my following four chapters.

R1: How can understanding the dynamic between the material and the discursive help us to understand forced migrants' agential capabilities in hybrid space?

R2: How do bordering technologies re-distribute forced migrants' hybrid mobile capability and agency?

R3: How do mobile media infrastructures and environments re-distribute forced migrants' capability and agency?

R4: How do forced migrants creatively appropriate hybrid space and mobile technologies?

Methods

I have consulted the digital public archives of the United Nations High Commissioner for Refugees (UNCHR), the European Commission, the United States Department of Homeland Security, and the United States Citizenship and Immigration Services (USCIS) to understand the activities and legal relationships concerning migration, particularly “illegal migration” in the case of the United States and “irregular migration” in the case of the European Union. From the

insight gained through these sources, I was able to understand the critical role that digital media plays in bordering practices, and furthermore understand how hybrid space diffracts and distributes power relations locally and from a distance. From October 2018 until the end of December 2019, I consulted popular news outlets such as the *New York Times*, *National Public Radio*, and smaller local news outlets located in San Diego and Miami, near major United States bordering “hot spots.” I used keyword searches to locate articles that discussed forced migrants and the use of digital media. I did not purposefully set a limit on the time frame for these sources that I collected because I wanted to understand what could be found in terms of the theme of forced migrants and digital media. I did have to use various search combinations because of the generally inconsistent use of the terms for forced migrants and the multiple terms that could refer to “digital media,” which I marked to be mobile phones, mobile devices, applications, social media. Although I did not conduct any content analysis on the many news articles that I’ve consulted, I did gain a general understanding from my sources that the use of mobile phones varied from the findings in the digital migration studies literature, which was also a factor that shaped this research focus.

It was from news sources that I began to inquire into the disconnection between the findings in the digital migration literature and the news reports from the ground. For example, when I first started my research, there were numerous publications from both scholarly and popular presses about the affordances of the smartphone for forced migrants. I’ve discussed many of these publications already in this introduction. But, when I was deeply engaged in my research, conducting searches for documents in the digital public archives previously mentioned, I could not find much support that forced migrants from Central America, for example, were indeed maximizing the affordances of the smartphone. Due to the differences in how

infrastructures are composed among environments, there was a disconnection between the published studies and reports. Additionally, I found that the studies on smartphones were quite specific to the European context, and that these studies also focused on similar migrants, Syrians. I used my theoretical framework to help me further untangle this disconnection by investigating the sociotechnical and kinetic assemblages that shape the force migration.

Thus, in my dissertation, I start by analyzing how power operates in hybrid space. Next, I move on to explaining how mobile technologies can be used to reconfigure spatial relations that, in turn, reconfigure power relations. All this leads to a final example in which I discuss how forced migrants engage in creative appropriations to reconfigure the power relations within the technologies that are used on them and the technologies that they can use, in the effort to increase their hybrid mobile capabilities.

Chapter Overview

As mentioned earlier, I explore four main research questions and dedicate each chapter respectively to each question. Chapter 1 describes how hybrid space (re)configures the distribution of forced migrants' agency. To do so, I build on Foucault's work on power as an ensemble of relations by adopting the language of assemblages (Deleuze & Guattari, 1983; DeLanda, 2006; Wiley et al., 2012). I describe how power relations within assemblages "come to matter," or materialize, into new configurations of power and subjectivity through theorists such as Karen Barad (2003), Jane Bennett (2010), and Thomas Rickert (2013). In addition, I also explore how understanding the dynamic between the material and the discursive can help us account for the effects of power. I analyze how the context of hybrid space facilitate ambient rhetoric for forced migrants and question what ambient rhetoric is in relation effects on the

agential capabilities of forced migrant. I draw on three main concepts of intra-action, vibrant matter, and ambience to describe how material objects have a vibrancy to them and this vibrancy has the potential to effect changes through ambient power relations. Although the relationship between power and agency is not a casual one, it is, however, symbiotic. In this chapter, I discuss this dynamic through the example of forced migrants in the context of hybrid space, where I also present the idea of *ambience* as a method of distributing power in hybrid space.

In this chapter 2, I explore how bordering practices are networked into our social, technical, and mobility systems and infrastructures. I investigate *how bordering technologies re-distribute forced migrants' hybrid mobile capability and agency*. I use kinopolitics as a method to analyze two examples of forced migrant experiences against the backdrop of mobile networked bordering practices: Eurodac as an example of networking communications and information, and “traveling” migrants as an example of how hybrid space extends the governing of mobilities and mobile conduct. I discuss how the mobile capabilities of forced migrants are conditioned through the ambient power of bordering technologies that circulates in hybrid space. The result is a border that is mobile, networked, and as much of an agent as a human user in hybrid space.

In this chapter 3, I explore *how mobile media infrastructures and environments re-distribute forced migrants' capability and agency*. I focus on two issues that impact the hybrid mobile capabilities of forced migrants: signal territories and net localities. In addition, I discuss the infrastructures that are required for mediated mobilities to occur. I compare the digital media uses of United States arriving forced migrants to the European Union arriving forced migrants to demonstrate that their differences are associated to the technologies that were used on them as well as the technologies that they could use. Through my examples, I show that the technologies

that forced migrants could use, including the technologies that enabled mediated mobilities, depended on the environments in which their migrations were situated. In short, locations matter because they are staged or designed for some communication and mobilities over others. They are infrastructurally networked differently and the differences in how they are “wired” can be seen as a function of governmobilities.

In chapter 4, I explore forced migrants’ creative appropriations of mobile media in relation to the technologies of the self. I analyze *how do forced migrants creatively appropriate hybrid space and mobile technologies* during migration. I describe how the creative appropriations of mobile media reconfigures power relations as well as media environments through the example of mobile phones and through the example of the Yaqui people who have appropriated the environment to make way for digital connectivity. I describe forced migrants’ creative appropriations as the ways in which they conduct themselves in a given staging of the environment, and this can be understood as *rhetorical attunement*. However, I show that creative appropriations involve hybrid space because this is the environment in which many forced migrants find themselves—with or without using digital media, it is being used on them.

As my intervention is informed by the scholarship in mobilities studies and mobile communications, I want to push these disciplines towards considering how digital media redistributes agency for all forced migrants, not only the ones who use digital media. I hope to illuminate the media environments, the mobility systems, the systems of power, and the distributions of agency that shape forced migrant communications and mobilities. I conclude this dissertation arguing that in order to resist the fantasy about virtual mobilities, particularly for forced migrants, attention needs to be paid to the environments in which technologies and forced migrants are situated. When we consider the changes that occur to spatial environments

and material technologies, we can see how forced migrants' agencies and mobilities are materialized into them.

Chapter 1: The agential capabilities of forced migrants in hybrid space

Agency is an important issue in forced migration because it accounts for what forced migrants can do within a system of power. As mentioned in the introduction chapter, forced migrants—a specific label that refers to asylum seekers, refugees, stranded migrants, children who have been left behind, children migrants, and those internally displaced (emplaced)—are often thought of as lacking agency because of their forced displacements and emplacements. For instance, Hannah Arendt (1943) summarized in “We Refugees,” there is a tendency to not account agency to those displaced in both the way we conceive of their subjectivity and in the way we perceive them. This is because those displaced or emplaced sometimes have no state—or rather, no infrastructure—to uphold their rights, apart from international treaties or policies that are up to individual nation-states or local authorities to respect.

However, in the same summary, Arendt also declares the refugee as *the vanguard*, “playing a leading role in the struggle against dark times” (p. 274). Arendt situates the refugee as a vanguard who has the will to survive against all odds, who is capable of re-creating and adapting themselves. In this lighting, forced migrants do exercise agency, but their agencies are configured through existing infrastructures that allow for recreating and adapting new ways of life and surviving. Arendt’s insights have inspired me to explore the questions of what is agency, and, particularly, what is mobile agency within the context of hybrid space—as we are increasingly interconnected through systems of flows and communication that extend our access to networked infrastructures. For instance, hybrid space is networked space that unfolds across physical and digital space, and it emerges from the social interaction of people who are connected through mobile technologies (de Souza e Silva, 2006). In this sense, hybrid space makes emergent the infrastructure that would hold up the agential capabilities of forced migrants.

In this chapter, I focus on describing how hybrid space (re)configures the distribution of forced migrants' agency. To do so, my method is to build on Foucault's work on power as an ensemble of relations by adopting the language of assemblages (Deleuze & Guattari, 1983; DeLanda, 2006; Wiley et al., 2012). Next, I describe how power relations within assemblages "come to matter," or materialize, into new configurations of power and subjectivity through theorists such as Karen Barad (2003), Jane Bennett (2010), and Thomas Rickert (2013). In addition to the aforementioned questions, I also explore the following questions in this chapter: How can understanding the dynamic between the material and the discursive help us account for the effects of power? How do material-discursive relationships (re)compose sociotechnical assemblages and vice versa? How does the context of hybrid space facilitate ambient rhetoric for forced migrants? And, how do ambient infrastructures condition the agential capabilities of forced migrants?

Some critics have argued that Foucault's work on power has focused too much on the discursive (what is socially constructed through language and knowledge) and not enough on the material (what are physical properties or features of objects) (Lievrouw, 2014). To this effect, I draw on three main concepts to construct my theoretical framework of *distributed agency in hybrid space* to describe how discursive practices and sociotechnical assemblages work in concert to account for how a process such as power relations become material. The logic behind this is that all things including the discursive are material objects that have a vibrancy to them (an inherent ability to create and re-create) and this vibrancy has the potential to effect networked changes through ambient rhetoric. First, Karen Barad's (2003) concept of agential realism builds on Foucault's discursive practices (articulations of power), in that discursive practices are material relations that materialize into relational agencies. Next, Jane Bennett's

(2010) concept of vital materiality builds on Foucault's biopower, in that things have been organized and categorized into living and nonliving or organic and inorganic, and by doing so we dismiss the fact that things have force. Lastly, Thomas Rickert's (2013) concept of ambient rhetoric combines Barad and Bennett's insights to show that sociotechnical assemblages matter into the disciplining or formation of bodies and thus their agential capabilities. Although the relationship between power and agency is not a casual one, it is, however, symbiotic, and in this chapter I discuss this dynamic through the example of forced migrants in the context of hybrid space, where I also introduce the idea of *ambience* as a method of distributing power in hybrid space and through networked connections.

Power, according to Foucault (1980), is everywhere and comes from everywhere. In this sense, power is already ambient and capable of producing networked outcomes throughout an environment by its presence (Allen, 2006, 2011; Haskins, 2015). For example, power is ambient in our parks through walkways by materializing into the outcomes of our walking paths, walking choices, and walking norms. Foucault (1980) explains that power is not one single thing, person, nor entity. Power is not something that individuals or groups have. Power doesn't only repress, it also produces. Power is inherently creative. Power operates on a multi-scalar level from the individual, to social relations, to the management of populations. Power is a process, emergent, and on-going. Power's networked effects can be seen through how we conduct ourselves and the discursive formations that we can easily recognize as normal or abnormal. This idea of conduct will be discussed further in the following section on the *technologies of the self*.

Moreover, Foucault (1980) has argued that governmentality, a kind of power, is a set of relations, or rather an "ensemble formed by the institutions, procedures, analyses, reflections, calculations and tactics that allow the exercise of this very specific albeit complex form of

power...” (p. 20). Accordingly, mobilities scholarship has been concerned with topics that address issues of mobility such as transportation systems, migration, crossing borders, border movements, urban design, how flows happen in public space, and mobilities research is “also about relations to immobility or stillness, or mobility as a power relationship where sometimes some people’s mobility depends on the immobility of others,” also referred to as “mobilities and moorings” (Abrahamson & Carneiro, 2017; Hannam et al., 2006). Thus, Foucauldian approaches to power, particularly that of governmentality, share similarities with mobilities studies concerning multiple scales and vectors of power. Both are concerned with the wide range of sociotechnical assemblages that create and support particular kinds of mobility spaces, and how such spaces reproduce power differentials in the capability for mobility (Bærenholdt, 2013; Manderscheid et al., 2014; Salter, 2013; Sheller, 2016). As in the case of this dissertation, forced migrant mobilities is the result of a myriad of sociotechnical systems including but not limited to laws, politics, economics, and culture and infrastructures including but not limited to territories, borders, and communication networks. These systems are increasingly becoming hybridized as indistinguishably physical or digital and are changing the way we should think about mobile subjects such as forced migrants and their agency.

Since mobile media and sociality are factors in my analysis, I use the term *sociotechnical assemblage* to refer to Foucault’s understanding of power and to account for social and technological infrastructures, especially the mobile infrastructures, and our ways of knowing that make up our social world. The relationship between Foucault’s concept of power and assemblages are similar since the use of assemblage makes it explicit that power is a set of relations (a system). Out of Foucault’s (1976) work on governmentality, Deleuze and Guattari (1983) conceptualize the assemblage as an “abstract machine” which brings about the conditions

for concrete elements and agencies to appear (Nail, 2017; Licoppe, personal communication, 2018). But, this machine isn't really a thing, it's a set of relations. It's quite similar to Foucault's concept of power, in that power has real material effects on bodies and the way we do and know things, and power does materialize as things in society. For example, the mobility regime underlying the U.S.-Mexico border is a sociotechnical assemblage. There are technologies or infrastructures present such as the border wall, detection sensors, and check points. There are social relations present such as the mobile subjects themselves in addition to border patrol agents, laws, and so on. This assemblage conditions how we all move and conduct ourselves around border spaces (infrastructure) and materializes into walls, check points, sentiments, and practiced conduct (more infrastructure).⁸

Technology use and connectivity have dual consequences and affordances on forced migrants that are both respectively positive and negative. In other words, we know there are consequences and affordances to using digital (mobile) media, but we haven't accounted for the outcomes of their uses other than through the affordances of connectivity. Leurs and Smets (2018) write,

New media, policy makers, and academics were in agreement that forced migration and digital connectivity were increasingly intertwined, however, the usages, experiences, and

⁸ Moreover, an assemblage is a multiplicity, or a fragmentary whole that could be added, subtracted, or multiplied without really losing its unity (Deleuze & Guattari, 1994). Maintaining the same example, border patrol agents are part of the power system. Their number, whether they increase or decrease in presence from one moment to the next, does not change the overall system that is there to patrol and control mobilities at the border.

implications of digital connectivity in the lives of forced migrants largely remain uncharted (p. 2).

Use of media provides forced migrants the opportunities to resist or subvert the legal, social, and political strategies used by governments and authorities to limit their mobilities. For example, a study conducted by the Danish Refugee Council reported that use of social media through mobile devices foster the exchange of dialogue, ideas, and real-time information (Frouws et al., 2016).

In this report, an unnamed Syrian refugee shared the details of his successful trip from Turkey to Sweden by way of Algeria, Tunisia, Libya, and Italy (p. 6). The details include flight suggestions such as a flight from Istanbul to the North African country of Algeria for \$400 U.S. dollars, when and where to exchange currencies, and even including locations to avoid along the route. As an effect, doing so empowers other forced migrants by offering strategies and navigation routes that have worked without the aid of smugglers. Yet, at the same time, digital tools, especially mobile media, have also provided governments and other authorities with opportunities to surveil and limit the mobility of forced migrants either by searching through phones for social media networks (Henley, 2016) or in detecting and preventing forced migrants' mobilities in border spaces (Berkowitz et al., 2019; Bier & Feeney, 2018; Bilgic, 2017; Harrington & Mark, 2019).

Furthermore, forced migration has been deeply impacted by persisting digital divides and the increasing use of information communication technologies (ICTs) (p. 2). By this, Leurs and Smets (2018) mean that digital (mobile) media use had been beneficial in forced migration mobilities, but not all forced migrants have the same access. For example, many of the accounts of so called "digital migrants" have emerged out of Europe. Whereas in the United States, I have observed that almost no studies have emerged on the digital media use of forced migrants

coming out of Central America (the “global south”), apart from a study that examines Mexican migrants crossing the border using mobile media (Baron et al., 2014). These variances could be explained through research trends because a majority of the research done on digital migration is located in the European countries. But these variances also signal to Leurs and Smets’ (2018) insight on the digital divide and issues of access because routes to Europe are more likely to be located in environments with more communication and mobilities infrastructure. Nonetheless, hybrid space plays a crucial role in forced migrant mobilities.

Sociotechnical assemblages make hybrid space and mediated mobilities possible. In this assemblage, mobile technologies play a key role because they engender hybrid space and, thus, mediate mobilities (Horst & Taylor, 2014; Keightley & Reading, 2014). Mediating mobilities reconfigures the ways forced migrants experience the networked effects of power and mobility and the distribution of their agential capabilities. As such, Foucault’s argument that power is an ensemble of relations is particularly important in understanding the agential capabilities of forced migrants in hybrid space because a Foucauldian approach to mobilities examines mobilities as an ensemble of relations, or a sociotechnical assemblage, that enables mobilities and immobilities to continue to function as they do.

As a trend, mobilities scholar have looked to Foucauldian approach to understand a wide array of topics (Manderscheid et al., 2014). Movement related, scholars have examined automobility, aeromobility, children’s mobility, and international migration. Systems of movement related, scholars have examined the production of physical spaces for movement, urban planning practices, bodily movement, new media practices, the production of mobile bodies and subjects, issues of state politics including borders and surveillance, risk and or crisis management, the climate, and more. This array shows that Foucault’s insights can extend our

understanding of what goes into the makings of mobilities. However, not many scholars have applied a Foucauldian approach to understand forced migrants mobilities in a digital context, one that includes hybrid space. As mentioned earlier, research on this topic has focused primarily on issues related to the affordances of connectivity. I contribute to the fields of mobilities and digital migration by extending this research to include issues of power as it relates to the ambient power within sociotechnical assemblages. Meaning, my contributions focus on connectivity, in general, but focus on hybrid space, in particular, to account for the agency that forced migrants have within a sociotechnical assemblage.

Using the example of co-presence, a kind of connectivity, my findings illustrate how agency is relational and ambient. I argue that distributed agency in hybrid space is possible through material-discursive relations that are constituted by sociotechnical assemblages; distributed agency is the result of both the formation of subjects and the force, or ambient rhetoric of all things. I conclude that enacting hybrid space is a technique of re-distributing power and that, for forced migrants, connectivity is important because it integrates or networks them in and out of sociotechnical assemblages, giving them encounters with varying degrees of ambient rhetoric or ambient power relations.

The role of digital media in the forced migration experience

As discussed in the introduction chapter, the term *forced migrants* carries a specific connotation. It is used to refer to “asylum seekers, refugees, stranded migrants left-hind children and child migrants as well [as] internally displaced populations amongst others” (Leurs & Smets, 2018, p. 2). Forced migrants, as a term, isn’t specific for the context of digital migrations. It can refer to any person who have has been displaced and those who have been emplaced—immobilized from

within a territory (Ahmed et al., 2003). Forced displacement isn't only about being forced to move out; it can also mean being forced to stay put or be immobilized. There are immobilities that enable mobilities—or, mobilities and moorings (Hannam et al., 2006; Sheller & Urry, 2006). For example, Moreton-Robinson (2003) analyzed how indigenous communities in Australia have been emplaced by laws and regulations that privilege white institutions while isolating indigenous people from their own ancestral land (p. 23). Additionally, emplacement can be seen in the United States' Native American reservations. Therefore, forced migrant is a term that is used to both describe persons on the move and persons who are prevented from moving (Leurs & Smets, 2018; Marlowe, 2019; Gill et al., 2011).

The increasing use of mobile media

Forced migrants are increasingly using digital media to aid their mobility, which have spurred studies in digital migration. Digital migration is an emerging field that explores the relationship between *migration* and digital connectivity. In mobilities studies, “digital connectivity” as virtual mobilities (Kellerman, 2006). In this conception, mobilities scholars do not view digitally mediated co-presence as merely a connection but rather as a mediated mobility that allows a person or thing to move virtually as information. Nonetheless, Leurs and Smets (2018) explain, “The rapid developments in migration that happen in conjunction with the spread of ICTs raise considerable theoretical, methodological and ethical challenges” (p. 2). As an emerging field, the responses to these named issues are only being developed. However, it's necessary to understand that these studies are significantly different from studies that explore the relationship between *migrants* and digital connectivity. The latter has focused generally on the

uses, experiences, and implications of digital connectivity in the lives of migrants living abroad or in diasporas, and such migrants may not be necessarily forced migrants.

Although there is a need for more studies on forced migrants in relation to not only connectivity but also its differential outcomes on mobility, there is a growing body of literature on migrants and digital connectivity. For example, the existing literature has focused on “settling migrants” in that migrants are trying to acculturate or acclimate to more stable living conditions or migrants who are using digital spaces as cultural consumption spaces (Brinkerhoff, 2009; Trimikliniotis et al., 2015): these migrants are no longer immediately “on the run.” These particular migrants have been described as digital diasporas or e-diasporas (Alinejad et al., 2019; Brinkerhoff, 2009) and connected migrants (Diminescu, 2008; Leurs & Ponzanesi, 2018; Pellegrino, 2013). The implications of their media uses have been described as ICT-based co-presence (Baldassar et al., 2016; Paragas, 2009), connected presence (Yu et al., 2017), ambient co-presence (Madianou, 2016), transnational intimacies (Walsh, 2009), and migrant mothering (Chib et al., 2014; Madianou & Miller, 2011; Kang, 2012). Studies have looked at the role of social media and its role in helping migrants to integrate into new communities (Alencar & Tsagkroni, 2019; Borkert et al., 2018; Aricat, 2015). From this, we understand that migrants use media beyond connectedness to maintain social networks and social capital (Keles, 2016; Elliott & Urry, 2015; Hiller & Franz, 2004).

These aforementioned studies help us to understand some of the implications of connectivity and digital media use. Although there is still a need for more studies on forced migrants and digital connectivity in relation to issues of mobile agency, studies that looked at locative media’s role in migrants’ wayfaring (Gillespie et al., 2016, 2018) has been a good intervention. But in general, critics agree that most of these studies have focused on migrant

media uses, and only a few have looked at how migrant media uses actually shape migrant mobility (Gillespie et al., 2018; Leurs & Smets, 2018).

Digital media's role in transforming the migration experience

As such, many scholars agree, there is a need to consider the role of the digital in transforming migrant experiences in mobility (Leurs & Smets, 2018; Gillespie et al., 2018; Leurs & Ponzanesi, 2018). But, this does not mean that scholars should single out technology use or mobility. Instead, while focusing on technology use, scholars also need to consider the context of both the use and of the forced migration. Digital mobile media, such as mobile phones, and the physical mobility of the user come together to make hybrid space possible. Here, mobile phones and mobility are associated to their own sociotechnical assemblages that are composed of varying combinations of communication and kinopolitical infrastructures that do not always register the end result of connectivity. Connectivity is not a guarantee. For example, there are critical issues of digital divide and access to infrastructures that need to be considered. The forced migrant faces issues of access to technology, infrastructure, and the potential for mobility or motility (Kaufman & Montulet, 2008). Thus, considering the assemblage of the technologies that make its uses possible as well as the assemblages of laws and policies that make the forced migration a reality gives us a better portrayal of the digital migration experience as well an idea about what are the agential capacities of forced migrants in hybrid space.

Environments have differential affordances for digital media use

Not every location is socially, materially, or technically configured in the same way, so this means that forced migrants' experiences with digital media will vary from one location to

the next. One rationale for not focusing solely on technology use is that technology alone gives the world a false impression about the conditions of forced migration. Already, what is happening with forced migrations is not reported in popular news media outlets, and there are no opinions about their conditions in which forced migrants live their lives made widely public. Furthermore, if there are reports on forced migrants, these reports are most often strategic communication campaigns by news media outlets and special interest groups who portray forced migrants as a threat (Leurs & Smets, 2018). In 2016, during what some might call the height of the Syrian refugee crisis, there were upheavals of thought about Syrians carrying smartphone phones and how smartphones were leading forced migrants out of war zones. News reports focused on the smartphone and contributed to the sticky narrative that smartphones are the key to success through titles such as: “This is why refugees have smartphones,” “Smartphones are the secret weapon...,” “How smartphones and social media have revolutionized refugee migration,” and so on (Lawson, 2015; I. Kaplan, 2018; Rosenblum, 2017). Although not in any nefarious way, scholars also participated in contributing towards the narrative about smartphones through titles such as “As important to me as water,” “Smartphones as lifelines,” and “Smart refugees...,” to name a few (St. George, 2017; Alencar et al., 2018; Dekker et al., 2018). And so, while this narrative was spurred on by the Syrian migration, it’s now also being applied to other scenarios of forced migration, for instance in the case of migrants mobilizing out of Venezuela (Jones, 2019), which in itself is its own varied context. The issue here is that, the narrative about the smartphone being a tool of survival or success gives a false impression of forced migrants’ mobile agency because this narrative does not consider the myriad of issues associated to forced migration that are always situationally-unique. On one hand, technology infrastructures vary from one location to another, which impacts use and the potential to appropriate technologies.

On the other hand, laws from one country to another vary, which impacts entry and capacities for further mobility, or motility (Kaufman & Montulet, 2008; Flamm & Kaufmann, 2006).

Therefore, in my research, I am purposefully moving beyond the mobile phone because the mobile phone is one element among many others in the sociotechnical assemblage that (re)distributes agency.

Beyond digital media, sociotechnical assemblages condition capabilities

Sociotechnical and kinetic assemblages, the assemblages that make mobilities possible, are always working together to distribute the agential capacity for both migrant digital media use and mobility. Digital spaces are constitutive of new social dynamics and they are embedded within the larger technical, social, cultural, and political relations that make up the spaces in which we operate our daily lives (Hardt & Negri, 2011; Sassen, 2002). Electricity, for example, which is crucial for smartphone operation, is experienced differently from one location to the next. At the Moria Refugee Camp, considered to be Greece's largest refugee camp, access to electricity for charging mobile devices comes from a power grid. This is because the camp was formerly a military training base, so Moria is able to appropriate the existing infrastructure for the camp's electrical needs. However, only three miles away at the Kara Tepe Camp, in Lesbos, electricity circulates in the camp at a smaller scale. Electricity for charging mobile devices is provided through solar panel charging stations. The charging stations were the effort of a team of students from Edinburg University (Tagaris, 2016). Really, without the demand and the efforts of non-profits and non-government organizations, some of these access to electricity issues may not have been resolved as efficiently at the smaller camps. In this manner, it takes the connectivity of others to facilitate the distribution of electricity. So, to say that the smartphone is leading

migrants out of harm's way, ignores the larger context or the technical, social, economic, and political relations in which smartphones are embedded. Doing so also ignores the sociotechnical and material inequalities in the potential or capacity to access smartphones because these material relations effect agency.

Technologies of the self: A method of re-arranging sociotechnical relations

In Foucault's (1979) conception, there is no sovereign power, but rather, power is a set of relations that circulates and permeates through the social field, and modes of being are produced through these circulating relations. A subject, then, is both subjugated and constituted through power and an agent who disseminates these relations that subjugate and constitute them (Lilja & Vinthagen, 2014). Recall, power is a sociotechnical assemblage that includes social and technological infrastructures, especially the mobile infrastructures, and the ways of knowing that make up our social world. As subjects are formed in the world, their agential capacities (or what they are capable of doing) are conditioned by everything that is around them and *everything that is within them*. In the case of mobilities, a mobile subject is formed as a result of the sociotechnical assemblages that disable and enable their mobilities such as access to roads or pathways, transportation costs, vehicles, weather conditions, bodily conditions, laws or policies, and what they believe or know about how they should move about in the world. Thus, the sociotechnical assemblage is integrated into the world as much as it is integrated into the person. For this reason, Foucault's later work on the technologies of the self becomes a critical intervention in how we can understand the distribution of agency.

Subjectification and governmentality

Scholars suggest that Foucault's earlier works such as *Discipline & Punish* (1979) and *History of Sexuality* (1978) focused on modes of being for subjects. Meaning, these works focused on understanding how power (the sociotechnical assemblages) subjugated and constituted subjects. This is also referred to as *subjectification*—a practice in which people are governed by others such as institutions or influences. In general, Foucault identifies discipline, governmentality, and biopower as techniques of power that govern the relations individuals have with society. For example, disciplinary power is a system of knowledge that shapes and normalizes subjects. Foucault (1979) gives the example of the prisoner who has first been identified as abnormal, who then must be reeducated through the penal system that uses techniques of organization, rank, activity control, and tools of hierarchical observation, normalizing judgement, and examination. Governmentality refers to the ensemble formed by institutions, procedures, analysis, reflections, calculations, and tactics that allow the subjects to be governed, and it refers to the logics and practices of government (Bærenholdt, 2013; Jensen, 2011; Lemke, 2015). Bærenholdt's (2013) work connects to Foucault's (1979) concept of governmentality. For example, Bærenholdt demonstrates the making of mobilities, or mobile subjects, through urban planning as well as through normalizing ideas about movement such as citizenship. Bærenholdt concludes that government is only possible through the governing of mobilities because mobility practices have been institutionalized through a normalized understanding of routines in common spaces. Lastly, biopower organizes human subjects into populations. Foucault (1978) describes biopower as "diverse techniques for achieving the subjugation of bodies and the control of population." Together, disciplinary power focuses on the

formation of subject, governmentality on the formation of government, and biopower on the formation of populations

Subjectivation and the technologies of the self

After the 1980s, Foucault shifted his focus to the relationship an individual has with their self. Meaning, how a subject deals with how they are constituted, or how they deal with themselves as a person inside the world they know. *Subjectivation*—markedly different from subjectification, earlier—refers to the practices of self-fashion or self-conduct through which individuals govern themselves. From *Ethics*, Foucault (1997) explains the mode of subjectivation as “the way a subject freely relates to himself” (p. xxvii) and “the way in which the individual establishes his relation to the rule and recognizes himself as obligated to put it into practice” (p. xxx). Foucault later refers to this mode of subjectivation as the techniques of the self, or the technologies of the self (p. 87). For instance, from *The Hermeneutics of the Subject*, knowing yourself are “techniques through which selves are (re)constituted in the present... produce a mode of subjectivity that is both objectifying and conducive to domination” (Foucault, 1993; Manderscheid et al., 2014, p. 484). By looking at subjectification (the sociotechnical assemblages that constitutes a subject) and subjectivation (the technologies of the self), we can understand the dynamic between sociotechnical assemblages and what individuals can do or how agential capabilities are distributed through this dynamic relationship, particularly as subjects move in and out of and engage with different sociotechnical assemblage through mobile media and hybrid space.

Foucault’s technologies of the self is a method for re-arranging sociotechnical relations. He postulates that when an individual knows their self, the individual knows the truth, in which

“truth” here refers to the technologies of power that come to produce the individual. Knowing this contributes to an individual’s a state of autonomous being (p. 484). If we contextualize this into the example of gender norms, it becomes less vague. As a person understands the history of sexuality and the history of gender norms, a person might then begin to conduct themselves more freely because they now understand the relationship between existing gender norms and current gender expectations. They are able to understand their relationship with sexuality as a product of a technology used to control and produce certain kinds of sexuality. In this manner, the technologies of the self is the power to re-arrange power relations, to understand how things in the world are made, how they have networked effects on you, and how you can respond within your environment and knowledge.⁹ It is also the techniques that allows you to effect things to improve your quality of life. It is a measure of self-care. As such, a technology of the self can be seen in examples where displaced and emplaced persons such as refugees and slum-dwellers creatively appropriate networked resources to arrange for power relations that support their survival (de Souza e Silva & Xiong-Gum, *forthcoming*). These marginalized communities are aware, to some degree, of how the world (including technologies and politics) works around them. To overcome some obstacles of their current sociotechnical assemblages such as everyday mobilities, some look to exacting material changes to current infrastructure such as the choice to make a make-shift wheelchair-scooter out of spare parts. What is inside the head goes into the hands for making a material object that engages in reconfiguring power and agency.

⁹ In Chapter 4, I elaborate on this further to discuss the technologies of the self as the capacity for misconduct.

In terms of forced migration, we can already see reports and studies of forced migrants using mobile media and digital connectivity to re-arrange power relations, particularly in the aforementioned literature on forced migrants and mobile media (Gillespie et al., 2016, 2018; Leurs & Smets, 2018; Ponzanesi & Leurs, 2014). Forced migrants' technologies of the self demonstrate instances of "misconduct" and have caused some uproar. For example, during the "height of the Syrian migration crisis," the refugee selfie was widely criticized. Publics were outraged that so-called refugees in need of humanitarian aid were capable of posting selfies onto social media with their smartphones. Critics have assessed that this public upset is the result of symbolic bordering, of not wanting Syrian refugees to occupy a digital space that has typically been used by non-forced migrants (Chouliaraki, 2017; Literat, 2017). In this situation, as these forced migrants used their smartphones to mediate their mobility into these digital spaces that are typically used by everyone else so far, they re-arrange power relations. They are not only seen, but by being "seen," the configuration of the sociotechnical assemblage experiences a molecular change. Although this re-arranging doesn't occur on a large scale, it's enough to introduce a new way of knowing about Syrian refugee's mobility injustice. According to Foucault, this matters because power is a network that can be felt throughout. These selfies don't change the hard articulations of immigration policies, but they are material objects that emanate a force into the world; thus, they are a form of power.

The role of matter in materiality

Foucault has been criticized over the ontology of how subjects are formed, particularly in how he has conceptualized the way in which discursive practices produce material bodies (Barad, 2003, p. 808). Largely this means, some critics have viewed Foucault as a social constructivist for his

insight on language and discourse, and they don't understand how Foucault makes the leap from discursive practices to material bodies. Although it's not the scope of this chapter to develop on these criticisms, in this section, I argue that Foucault is able to bridge discursive practices and material bodies because practices (are processes) that are already always material. Processes can't be "seen" because we mainly observe the end product; processes such as systems of power materialize into the end products. I use Barad's (2003, 2007) concept of agential realism to elaborate further on how discursive practices come to materialize into material objects.

To summarize the criticism, Foucault (1978) proposes a history of bodies in which the "biological and the historical are not consecutive to one another... but are bound together in an increasingly complex fashion in accordance with the development of the modern technologies of power" (p. 151). Barad contends that Foucault's account of the body (including the biological and historical) does not consider "*how the body's materiality—for example, its anatomy and physiology—and other material forces actively matter to the process of materialization*" (original emphasis, p. 809). Foucault focuses on how bodies are produced socially and does not include the materiality of the body—its abilities or its disabilities—or nonhuman material forces that act on bodies such as media technologies. To an extent, this is a fair assessment. However, if you recall Foucault's later work on governmentality, particularly in Foucault's work on the technologies of the self, Foucault does begin to consider the abilities and or disabilities of bodies, and Foucault has always referred to power as a technology. Foucault passed away before completing this work, and while there is no way to tell what might have come out of its completion, what is present about the technologies of the self of the indicates that Foucault also identifies power among and within subjects (Elden, 2016). First there is power among subjects

because power is a network of relations, and next there is power within subjects because of their capacity to know what has come to make them such as the knowing of histories.

However, Barad maintains that Foucault does not tell us in what way is the biological and the historical bound together (p. 809). Barad is fair in her assessment that Foucault has treated bodies more as a representation of the productive forces. For example, from *Discipline & Punish*, Foucault (1979) has pointed out that juridical systems of power produce the subjects they subsequently come to represent. The formation of the subject as a prisoner *represents* the result of juridical systems of power; and so, as far as the subject that is formed, there is no accounting of the materials that go into the mattering of the subject, only that the subject is represented as a result of the process such as a “prisoner” or a “disciplined body.” Additionally, Barad (2003) argues that Foucault’s genealogy of production stages matter as passive and does not acknowledge the contribution of non-social factors such as matter itself (or how matter changes over time through deterioration or aging) in the materialization process of bodies, of subject formations (p. 235). Together, Barad finds issue with Foucault’s ontology of productive forces in what it produces in that Foucault describes his bodies as mere representations of the sociotechnical assemblages that come to articulate it, and Barad finds issues with Foucault’s lack of consideration into the materiality of materials. To resolve this, she later provides a remedy for this through the idea of *intra-action*, which is beneficial to this dissertation’s overall interest in the agency of forced migrants.

Foucault’s analysis of power links discursive practices to the materiality of the body, although technically this doesn’t come through because Foucault describes this phenomenon at a very abstract level. For example, the gendered body (from how we act, dress, talk, conduct intimacies) was linked to the history of sexuality. In this manner, power is conceived of as an

abstract machine that “produces” (Deleuze & Guattari, 1994). This is purposefully vague so that the power is like a machine or is the infrastructure to distribute the ability to do things, to distribute agency. Nonetheless, from Foucault, we generally know that the body is the site of politics. The body represents the kinds of power and the body “reproduces” the kinds of power. This is applicable insight for mobilities scholars in that the possible kinds of mobilities are produced by the network of mobility systems: mobilities are relation and staged (Adey, 2006; Jensen, 2013). Moreover, this translates to concerns about racialized and gendered or differential mobilities (Cresswell, 1999, 2010; Cresswell & Uteng, 2008; Kronlid et al., 2008; Massey, 1994; Nicholson & Sheller, 2016; Sheller & Urry, 2006). For instance, Foucault identifies the body as the locus of productive forces or the “site where the large-scale organization of power links up with local practices” (p. 809). In this manner, the deployments of power are directly connected to the body, effecting how the body functions, how the body moves and how the body feels.

Likewise, mobility is a practice that is enabled through larger mobility systems that are connected to the body and other localized systems. Scholars have referred to this as a constellation of mobility (Cresswell, 2010), mobility assemblages (Salter, 2013; Wiley et al., 2012), or kinopolitical infrastructures (Nail, 2016; Sheller, 2018b). These larger systems, which might include common mobility practices, laws, trade deals, routes, roads, and so on, materialize into how a mobile subject can actually move, or can’t move. These larger systems are part discursive (laws, common knowledge or practices) and part material (routes, roads, vehicles), but they come together as a material-discursive relation that then materializes into the decisions about or the capabilities of mobility. For instance, larger systems such as racial and religious politics are directly connected to the immobilities (and the genocide) of the Rohingya people, an

Indo-Aryan ethnic group in Myanmar. In this case, racism and religious affiliation are discursive practices that are directly linked to the materiality of the bodies of the Rohingya.

How process becomes material

To resolve this, Barad escalates Foucault's notion of discursive practices to the level of the material-discursive. First, discursive practices are often associated to linguistic expression, but discursive practices actually define what counts as meaningful *statements*. A statement in this sense does not refer to the verbal. As such, linguistic expressions are not the only ways in which meaning (including knowledge and or communication) is made possible. Barad writes, "meaning is not ideational but rather specific material (re)configuring of the world, and... is only locally resolvable through specific intra-actions" with intra-actions being an essential part of phenomena and the creativity of phenomena (p. 818-19). Intra-actions enfold locally stabilized phenomena into subsequent iterations. Next, a statement, or a phenomenon, is what emerges alongside a subject from a field of dynamic and contingent possibilities (p. 819). Discursive practices do not merely describe the phenomenon—the subject and the object of knowledge practices—discursive practices are a part of the phenomenon. In accordance with Foucault, Barad explains that discursive practices produce conditions, or material (re)configurations. These conditions are not abstract or transcendental: they are historically situated social and technical conditions that are material. Things do not have meanings or determinate boundaries apart from their mutual intra-actions, the mutual conditions that bring about their emergence—that bring about statements (what emerges from the field of possibilities) and subjects (bodies and forms of subjectification).

In this sense, relations are material-discursive. Meaning, although discursive practices are process, the process itself is material and capable of enacting changes, or intra-acting, with other

materials. This doesn't reject Foucault's understanding about the role of the relations of power in the formation of subject bodies, but this does demand for more attention to what materials goes into the making of or materialization of subject formations. After all, Foucault is often mentioned as an influential source for materialist scholarship, mainly because Foucault's genealogies complicate the idea that there is a stable subject (Lemke, 2015). Thus, in this performative understanding of discursive practices, scholars shift from questions of correspondence between description and reality to matters of practices, doings, and actions (Barad, 2003, p. 801).

For digital migration and mobility, accounting for the materials including the material-discursive practices that materializes into and become sedimentations of subject formations becomes critical to understanding the notion of distributed agency. Because resistance is not something outside of the discursive practices of power, resistance is more akin to the creative appropriations forced migrants enact. The creative appropriations of technologies, which I will discuss further in the following chapters, is the result of and the response to the power relations that sustain the conditions that make resistance or the exercise of agency possible. Understanding the mobile agency of forced migrants within a digital media context takes into consideration the techno-social and material assemblages, such as practices, digital media, connectivity, and co-presence afforded by hybrid space. Both sociotechnical and material assemblages produce capabilities as to how forced migrant's bodies or subject formations and on how agential capacities are constituted. In adopting Barad's performative understanding of discursive practices, the goal is to consider the implications of how the use of mobile information and communication technologies, or mobile media, produce material and material-discursive capabilities on the digital migration experience, and how such use materializes into the forced migrant's agential capacity.

Agential realism as a performative understanding of process

In order to help account for Foucault's materiality, Barad proposes the concept of intra-action. *Intra-action* offers a framework for reworking the traditional notion of causality, where exteriority, connectivity, and exclusion are reconfigured to understand the dynamic of things, including how things are made. In this framework, Barad levels the formation of bodies and the formation of subjects, or all matter, into one process to account for discursive and material-discursive practices. As mentioned earlier, to account for socio-technical and material assemblages within this process, Barad argues that processes are also material: they are material-discursive. Processes engage in *thingafication*—where relations turn into things, entities, *relata* and it “infects much of the way we understand the world and our relationship to it” (p. 812). Relations are material: they are meaningful, and they perform in our lives beyond consequences and affordances by producing matter. An agential realist ontology, one that examines the relation of agential capacity, is Barad's basis for a posthuman performative account of the production of material bodies by focusing on configurations, or how matter comes to matter (p. 814)

Often, we think of materiality as materials, something that can be verified through the sensations of touch, sight, smell, hearing, taste. From Barad, we can also consider knowing as a way to sense materiality. Scholars who have examined urban designs or memorial designs have identified the materials and arrangement of things as a key factor in how mobility might occur within those locations. For example, Allen (2006) examines Berlin's Potsdamer Platz, a public space that was privatized during redevelopment. Allen explains that the layout and the design of the complex encouraged visitors to circulate and interact in ways that they would not otherwise. In this manner the power to control mobility goes unmarked, the power is ambient and radiating through the infrastructure itself. There is no guard to tell the visitors how to move. Allen

suggests it is the “quieter, more impalpable registers of power that now play a more significant part in the constitution of public spaces” (p. 454). Or, as another example, Blair (1999) similarly explains that at memorial sites, the materiality of the site communicates to visitors a mood and suggestions for how to move about on the site. The paths communicate the walking route, while the bench communicate where resting or stoppage can take place. In both situations, Allen and Blair have named the materiality of the locations as factors in mobility choices, but if we consider Barad’s contention that knowledge is material, then we can consider how ways of knowing, as a material force, has consequences and affordances on mobility choices. Because visitors know not to just sit where there aren’t any benches, most visitors—having this knowledge—are compelled to continue walking or at least standing. In this sense, knowledge is not only a way to sense materiality, it performs by having real effects on the body and the kinds of things the body can and is willing to do.

Barad reworks the notion of causality to understand how matter (re)produces matter through Niels Bohr’s (1934) ontological primacy of relations, or rather, intra-action, to develop the concept of agential realism.¹⁰ First, intra-action is used in contrast to *interaction*. Interaction assumes that, for a thing, there was a prior existence. Barad argues that things do not have anything prior and are not anything until they intra-act with other things. Things, or all matter, is

¹⁰ Bohr’s concept of intra-actions was originally used to describe how scientists should treat empirical findings from their studies. The concept suggests that the findings are not separable from its components, including the scientists themselves. From the tools used, the methods, methods of measurement, and where the studies take place, all these things matter in what becomes the findings of a study. Barad writes, “according to Bohr, the primary epistemological unit is not independent objects with inherent boundaries and properties but rather phenomena” (p. 815).

relata, then they become relational and materialize into their emergent phenomena, or form.

Intra-action can be seen as a process of producing each other, of configuring each other. By this measure, agency is the enactment of iterative changes to particular practices through the dynamics of intra-activity (p. 827). Unlike Foucault, who focuses on the relations of power, Barad focuses on the relations of agency. The difference is that Barad shifts focus to what individuals and things within a sociotechnical assemblage can do as a result of their placements (in a way, the technologies of the self). Whereas, Foucault has focused on the how relations of power, or sociotechnical assemblages, have manifested themselves into various objects and subject hoods. In this manner, Foucault has failed to use the language “materialize,” but, he does in fact spend the majority of his work describing the process of power and how it has materialized into, for example, the birth of the prison or the history of sexuality. In Barad’s reading of agency, subjects are not formed strictly only through the relations of power, they are also formed through the intra-action of their own power and what they are going up against. Thus, bodies, things, and matter are formed through agential realism. For example, the formation of the migrant subject is the mattering of how a person might know how to and to when leave. This knowledge of knowing when and how to leave and desire to do so positions them towards the formation of a (forced) migrant. A person’s gender, race, citizenship, or social status places them into categories that may or may not form them into migrant subjects. Their physical bodies, abled-bodiness or disability matters. Their history matters. What they believe and who they believe matters. What is happening to them in terms of policies, laws, and regulations matters. And, how the earth is made up around. All these things matter into how a migrant subject is formed. A migrant subject, for example, is formed through a relation of agencies that includes methods of knowing, relationship to concepts and categories, the biological, the historical, the

social, cultural, physic, economic, geopolitical, geological, and also technological. In *Figure of the Migrant*, Nail (2015) writes, “Some migrants may decide to move, but they do not get to decide the social conditions of their movement or the degree to which they may be expelled from certain social orders as a consequence. Migration in this sense is neither entirely free nor forced...” (p. 3). In this sense, the migrant emerges as a result of their relational agency to things.

In mobilities studies, we are aware of the concept of differential mobilities to be the differences within or between individuals and things that shape their mobile agency (Adey, 2006; Hannam et al., 2006; Sheller & Urry, 2006; Adey, 2014; Abrahamson & Carneiro, 2017; Baban et al., 2017). So, it should not be surprising when Barad brings to our attention the idea of *differential mattering*—in that “it is through specific intra-actions [the relationship of agencies] that a differential sense of being is enacted in the ongoing ebb and flow of agency” (p. 817). Phenomenon, including being, are constitutive of reality, and so the boundaries, properties, meanings, and patters that mark our bodies matter differently based on what is present among the intra-actions. Barad defines agency as “the enactment of iterative changes to particular practices through the dynamics of intra-activity” (p. 827). Thus, for agential realists, meanings are specific material (re)configurings of the world (p. 819) and agency is the ability to enact changes to those arrangements. Thus, differential mattering materializes into differential mobilities and differential agential capacities.

Vibrant matter and distributed agency

Bennett (2010) offers a radical framework for understanding publics and political ecologies through the concept of vibrant matter. Adding Bennett’s insights on vibrant matter and

distributed agency as another layer on top of Barad's insight on agential realism provides us with a framework to understand that 1) processes and relationships are material and 2) materials have a combined agential force. Nonhuman materials play an active role in public life; notably, we see this in the example of mobile phones and the public lives of migrants. Bennett demonstrates that both human and nonhuman entities, including inorganic matter, are composed of vibrant matter. Bennet reconsiders the quarantines of life (us, beings) and matter (it, things) to articulate that these categories limit agency to the category of beings, when in fact things have *thing-power* (p. 10). This differs from Barad's *thingafication*, which is the idea that processes are things. Thing-power is the idea that things have agency, even things that do not move. Things have a vitality to them: "the capacity of things...not only to impede or block the will and designs of humans, but also to act as quasi agents or forces with trajectories, propensities, or tendencies of their own" (p. viii). Bennett applies another layer to our understanding of agency, in that agency is not only relational to bodies or subject formations but that agency is already and always distributed through all matter. Thus, agency is an assemblage that owes its agential capacity to the vitality of the materialities that constitute it (p. 34).

Bennett pulls the concept of affective bodies from Spinoza and assemblage from Deleuze & Guattari (p. 21) to develop the concept of distributive agency. First, affective bodies are associative bodies. They are continuously affecting and being affected by other bodies. While things have and do express vitality, they never act alone. Affective bodies depend on collaboration, cooperation, and on the interactive interference of many bodies and forces. Meanwhile, assemblages are groupings of diverse elements that are able to function despite its internal diversity. Distributive agency depends on affective bodies, on different types and degrees of power depending on the time, place, composition, and the density of the formation

(Bennett, 2010, p. 108). Actions are not possible without the (non)moving parts of others. For example, in a power grid, electricity moves through currents and its action produce materializations of what is present such as the “slight surprise of action”—a black out when there is a break in the circulation of electricity (p. 27). The mobile agency of electricity is distributed among a continuum that contains multiple *loci* and sites from the electrical plant, to the land lines, to the unit itself (p. 28). By this measure, the structure the electrical grid alone doesn’t adequately account for what gives the electricity its possibility for circulation. Rather, infrastructures and a myriad of things from users, usages, to politics are affective bodies in this assemblage. In this example, Bennett illustrates that matter-movement is associated to economic, labor, agricultural, transportation, and commodity-chain assemblages (p. 51). Matter has inherent creativity because there is no material point that doesn’t act on every other material point (p. 77). For this reason, distributed agency enables people and things to behave and move in unexpected ways.

Ambient rhetoric

In a sense, what is distributed and networked through connections becomes a source of ambience. Rickert (2013) explains that ambience works as a system of interacting elements and extends the materiality of assemblages (p. 112). Rickert is conceptualizing ambient rhetoric against the backdrop of emerging technologies. This isn’t necessarily comparable to McLuhan’s (1964) idea that media is an extension of the self, but ambience is similar in that Rickert is proposing that through media our subjectivities are dispersed and yet connected through digital connectivity. Moreover, technologies of all kinds are now becoming ambient through ambient

intelligence and ubiquitous computing, but more so, ambient technologies such as sensors and location tracking devices are becoming material actants on our social spaces.

First, ambience is what surrounds us as discursive formations such as ways of knowing or histories, material, spatial, infrastructural, and environmental. Next, ambience is what conveys our affective investment and emplacement within an environment, or a space. And, lastly, ambience connotes the dispersal and diffusion of agency because ambience reflects the infrastructure of things (p. 16). Ambience is also a dispersed form of subjectivity because individuals are no longer located in a singular position; instead, individuals are subjects to hybridized positions in which the self can be located in multiple locations at the same time. This means that power is not simply played out in space, but that the space itself (where the many selves can be located) is imbued with power relations that are vibrant and extending from all affective bodies, assemblages, material-discursive, and discursive practices.

In other words, ambience can be understood as “active networks of becoming” (p. 90). As nothing is stable, there is work involved making the conditions that make something possible. In terms of mobilities, the work that makes mobilities possible is sometimes immobility itself. For example, the airport remains relatively immobile so that the mobility systems that the airport supports can maintain its mobility practices (Adey, 2006). Flights and international travel are an active network of becoming that is made possible through airports. In connection to forced migration, the border performs a similar task. Although some borders like walls and check points remain relatively stationary, these borders actually do the work of moving people and goods around. Decisions about the porousness of a border are also conditioned by ambient power relations that are underwritten by discursive elements such as nationalism, racism, ableism, and gender. By this, ambient power relations are materialized into the border. For example, the 2010

earthquake in Haiti displaced many Haitians and lead to a chorea outbreak. As a response, the U.S. offered asylum for Haitians of this natural disasters up until 2016. In doing so, the border became porous for Haitians seeking asylum in the U.S., but this border was only porous for six years, and its pores constricted when the Trump Administration ended the Temporary Protection Status. Many Haitian refugees found themselves subjected to the ambient power relations of the border as many of them faced being returned to Haiti. An *ambient rhetoric* continually attunes itself both to what is present and to what withdraws: ambience is the condition that give rise to our ongoing perceptions and understandings of the world (p. xiii).¹¹

As such, the ambient power (Allen, 2006; Jensen, 2011; Haskins, 2015; Madianou, 2016) of technologies are affecting us through behind the scenes programing and algorithms (Rickert, 2013, p. 45). Likewise, ambient rhetoric can be used to shape or design for behaviors. As technology becomes hidden or hybridized within the unintelligent objects (in vibrant matter), they become things obtaining Bennet's notion of distributed agency, and they become active and intelligent actors in our environment by co-constituting our material-discursive practices. This goes for both mobile media that are a part of migrant's mobile assemblage and for bordering technologies that are part of the mobility regime countering migrant mobilities. Adding Rickert as yet another layer on top of Barad and Bennett, gives us a framework to understand that not only is agency distributed along the lines that Barad and Bennett have articulated, but also that subjectivity is distributed into multiple spaces and connected spaces such as hybrid spaces. An

¹¹ But, Rickert is suggesting that subjectivity is not something individual, but rather it is something that is dispersed and connected to various aspects of the external environment (p. 76).

individual is not exactly one person because their presence can be divided among dwellings. Thus, to understand the implication of digital connectivity on digital migration and mobilities, ambience is a key to understanding how a forced migrant occupies multiple subjectivities that change in relation to their network of connections.

However, in returning to Foucault's concept of the technologies of the self, ambience complicates *parrhēsia*, or what is the true self. The true self can be constituted in various configurations based on socio-technical and material assemblages. This invites creative appropriations, as I'll discuss in the following chapters, but mainly, I argue that hybrid space is a technology of the self as users make connections with what they find to be meaningful. Hybrid space materializes those relationships into material things that have a distributive agency that then also distribute the user's subjectivity. In short, by adding these new materialist concepts to Foucault's concept of the technologies of the self, we understand that the relationship between subject and agency is much more nuanced than a set of relations that form a subject body. We understand that the relationship between subject formation and agency is intra-active, the two co-constitute each other; the relationship is material and materializes into things with thing-power and thus distributes agency; and that in the context of networked communications, the subject formation itself is also distributed. This means there are more localized locations to exercise agency ("resistance" to power); and on the other hand, it can also mean there are more locations to which the power takes on new embodiments and instantiations. Thus, the distribution of agency is multi-directional. As such, we see this happening in the example of migrants and hybrid space in relation to mobile phones and bordering technologies. Both have the potential to engender hybrid space, enfold local with the distant spaces, and are part of the infrastructure that (re)distribute agency.

The (digital) mobile commons, forced migrants in hybrid space, and ambience

Hybrid space is a networked space that unfolds across physical and digital space, and it emerges from the social interaction of people who are connected through mobile technologies (de Souza e Silva, 2006). By examining hybrid space, my hope is to understand the dynamics of forced migrant mobilities and digital media at the intersection of physical and digital relations, or at the intersections of where socio-technical assemblages meet mobility assemblages. Studies have examined the general uses of digital spaces to discuss how interpersonal relationships are maintained (Prøitz et al., 2017; Madianou & Miller, 2013; Lasén & Casado, 2012; Hjorth & Lim, 2012). More specifically, studies have examined how migrant uses of digital spaces impact interpersonal relationships (Madianou, 2016; Robertson et al., 2016; Pellegrino, 2013; Madianou & Miller, 2011; Walsh, 2009) or how such use has shaped gender relations (Angulo-Pasel, 2018b; Chib et al., 2014; Kang, 2012; Madianou & Miller, 2011). Studies have focused on digital media and mobility (Kaufmann, 2018; Dekker et al., 2018; Gillespie et al., 2018; Kaplan, 2018; Gillespie et al., 2016; Aouragh, 2011). Most specifically, there are studies that focus on digital space and mobility through the concept of the digital mobile commons (Trimikliniotis et al., 2015, 2016; Angulo-Pasel, 2018b; Papadopoulos & Tsianos, 2013).

The idea of the mobile commons comes from De Moor and Berge's (2007) concept of the commons as a part of the natural world used by humans or it may be a social reality created by humans such as the internet or urban spaces (p. 32). The mobile commons is valuable in understanding how shared or open resources are maintained among all people especially migrants. Sheller (2018b) explains: "The concept of a 'mobile commons' first began to appear in the study of migration, where it challenged state-centered approaches with a more autonomous understanding of migrants' own perspectives (p. 252). The mobile commons is "enacted within

shared practices of movement, momentary gatherings, and fleeting assembly, for a time, in a place, without owning it, so long as no one ruins it...” (p. 254-55). Therefore, a mobile common is a common area where mobilities can be performed such as a pasture.

Although this is a much more complex concept, an aspect of this concept promotes the idea that people can collaborate and organize themselves to manage common resources (Hess & Ostrom, 2003). The mobile commons is conceptualized as an “essential acquisition resulting from the collective power to reshape the world of people on the move” (Trimikliniotis et al., 2015, p. 9) and as “the enactment of cooperative social territories and shared infrastructures of movement... which allow people to exercise productive forms of autonomous social cooperation outside of capitalism, and beyond or beneath the limits of national borders, existing in the interstices” (Sheller, 2018b, p. 264). All in all, the mobile commons is conceptualized as a common good, as a right or issue of justice.

The digital mobile common draws on this concept and is an approach to understanding the imbrications of technology and society. The digital mobile commons promotes examining digital spaces in relation to other technologies, practices, systems, institutions and conventions in which digital spaces are able to let others participate (Trimikliniotis et al., 2015, p. 11). It is a digital space that does not belong to any one group or person, but it is there to distribute the digital mobilities of the public.

However, differential inclusion by means of differential access into the commons brings about irregular forms of collaborations and organizations and thus mobile agencies—especially when the mobile commons becomes a digital mobile commons that emerges in hybrid space. Just as Barad (2003) explains that differential mattering brings about different ways of being in the world, different inclusion changes the make-up of the mobile commons. Moreover, for this

particular context of forced migration, the digital mobile commons, which is enabled through the systems of autonomously shared resources like shared platforms and collective actions, requires organizational communication and already existing network of infrastructures, which may be complicated by issues of access and digital divides. For example, we have to consider who is actually making these journeys. Popular presses mainly reported that young male upper class migrants were chief among the refugees entering Europe. More specifically, The Federal Office for Migration and Refugees indicated that in 2015, almost 70% of the applicants for asylum in Germany were male and mostly between the ages of 18-30 (Sanderson, 2019).

The digital mobile commons involves connectivity, collaboration, and sharing of resources. It is enacted at a very local and specific level between users to create a “common” space. Hybrid space does not pose a challenge for the digital mobile commons, but precarious access to communication and kinopolitical infrastructures challenges how the digital mobile commons can be used as a common and shared resource. Thus, the relationship between hybrid space and the digital mobile commons is both that can be undermined by differential access, which pose challenges for hybrid mobilities.

Hybrid space as local but distributed space

Chiefly, hybrid space is a space that is produced through mobile ICTs and user mobility. Hybrid space is a local but distributed space because it is sustained through mobile media, such as mobile phones or smartphones, and through the constant movement of users. The act of movement itself is integral in constituting the hybrid space because hybrid space acts on the accumulation of extended spaces. This means, the more an individual moves, the more distributed the hybrid space becomes through the process of enfolding whereby the distant or

informational space is enfolded into the immediate space. Together, mobile media and mobility bring about a new user experience through the onset of mobile digital space—making the space further afield and extending the hybridity of space further.

Previously, internet users connected to the internet using a stationary desktop, so there was a sense of “going online,” as though it were a place separate from a user’s immediate space. Labels such as cyberspace also contributed to this perception that there was a division between virtual environments and digital environments. Popular movies such as *The Matrix* characterized digital environments as if they were a separate place that a person plugs into. However, mobile digital space changed this perception. Instead “entering” virtual worlds through the internet and perhaps creating an avatar or an identity of some sort to represent a person’s presence in that particular virtual space, mobile digital space allowed a person to connect to digital environments while remaining presently immersed in their immediate space (de Souza e Silva, 2006, p. 264). The idea of going online or entering a different space to access digital environments began to diminish with the onset of internet capable mobile media. Accordingly, a user does not experience a double space or augmented reality, but they experience a hybrid space, one in which what is digital or what is physical is simultaneously distributed across a user’s awareness. Such a digital space is constitutive of new social dynamics, particularly the one migrants have with emerging technologies and networked communications, and are embedded within the larger technical, social, cultural, and political relations that make up the spaces in which we operate our daily lives as well as the production of subjectivities (Hardt & Negri, 2011; Sassen, 2002). In this manner, hybrid space is constituted by physical and digital relations—it is the materialization of both sets of relations. In the following discussion, I will elaborate on “digital passage” as an example of this wherein, in hybrid space, forced migrants are not “going online,” but they are

traveling along pathways that are connected to digital infrastructures such as WiFi. In this case, their pathways are constituted in the physical and the digital, where it becomes increasingly difficult to move without the other.

Hybrid space's emphasis on connected presence and enfolded space have a wide implication for digital migrants in terms of distributed agency. Adriana de Souza e Silva (2006) draws the concept of hybrid space out of discussions about interfaces, which was typically thought of as a human-computer relation that mediated and represented information between users (p. 261). Interfaces are a way for users to interact with one another in the absence of corporeal presence. Moving past single users, de Souza e Silva defines social interfaces as "a digital device that intermediates relationship between two or more users" (p. 262). Within this multiuser context, social interfaces such as mobile phones reshape communication relationships as well as the space in which this use or these communicative practices take place.

Connected presence and ambient rhetoric

The emergence of connected information spaces such as chatrooms, instant messengers, blogs, wikis, texts, or other social media platforms increased the potential for multiple users to possibly engage simultaneously with one another, to enact a sense of co-presence. This sense of co-presence is deeply connected the idea of ambience (Rickert, 2013). Mobility and immobility protract and contract these relations and distributes the material-discursive relationships that condition a subject's mode of being and agential capacity.

The implication for not having digital connectivity and thus access to hybrid space could mean a lack of resources that diminish a migrant's agential capacity. For example, in the case of Germany, Interior Minister, Thomas de Maizière has said to reporters, "If you want to come to

Germany, we have to make safety checks... we will ask you to show us your Facebook contacts from the last few months, which are public in principle anyway” (Henley, 2016). Nonetheless, social media accessed through mobile devices, which many migrants have been reported to rely on as communication channels (Frouws et al., 2016; Gillespie et al., 2016) can be searched and its contents used against a migrant’s asylum claim. The content found can even be used as in arrests. Such is the case when German police arrested Syrian migrants based on images found on their phone (Henley, 2016). This practice of identification through social media or mobile phone content is an implication of a migrant’s distributed subjectivity.

This idea of ambience stems from the idea that there is reciprocity between the environment and the organism (Gibson, 1986; Jensen et al., 2015). The sense of co-presence, or this ambience, can also mediate what a person chooses to (not) do because of their awareness to things including their own situations. In this manner, ambience mediates a subject’s mode of being. Such mediation can be seen in the work done on ambient power (Allen, 2006; Haskins, 2015) as our environments such as urban planning and design mediate our knowledge or ability to do things in a given location. Beyond where our bodies can go and what kinds of relationships we can have, ambient co-presence (Madianou, 2016) makes us constantly aware of the actions of our co-present peers, which in turn shapes how individuals might conduct themselves. Furthermore, ambient flows, particularly in the “now-ness” of news reporting “re-situate how we understand where we are, who we are connected with, what our ‘present’ moment actually is” (Sheller, 2015, p. 24). Ambience is not good or bad, per se; rather, it’s a mode of being in which our attention, as it is mediated by various technologies subjectivate in multiple ways simultaneously.

Thus, the result of our relationships with technology, especially ubiquitous computing and networked communications render us more susceptible to Foucault's concepts of power. For example, the context of hybrid space affords the possibility of "always being on." Of course, this depends on access to internet and devices, but "always being on" means the possibility of constant connection, and constant distribution of the self, which opens the migrant to more localized mediations of power.

Migrant technologies of the self and openings for new relations of governmobilities

Although the focus of this study is on the digital media practices of forced migrants and not migrants in general, as discussed earlier, migrants and digital media use in general provide a base understanding for how migrant technologies of the self are configuring new relations of power and mobility through ambience. An emerging mode of ambient co-presence comes with the ability to make meaningful relations. Earlier, scholars conducting research on migrants and mobile phones asserted that the ubiquity and multi-stranded utility (including calling, texting, and images or real-time visual communications) of mobile phones in the local, transnational, and global communications of migrants, for example Filipinos overseas, have facilitated an imagined temporal simultaneity (Paragas, 2009). This new temporal simultaneity through synchronous communications across territorial borders contributes to the "confluence of one's multi-stranded standing in transnational social spaces" (p. 60). Often, migrants are stranded in multiple ways. They can be stranded with respect to being away from home, new territories, possible language barriers, social norms that might be outside of their home culture, and or differential power relations experienced at work. The chasm is bridged through a sense of spatiotemporal simultaneity achieved through the sharing of information and connected presence. Family units

living apart talk on a regular basis to share stories and awareness about their daily lives and they can know what is going on in the other's lived context through the stories portrayed and through the sounds or images they experience through the hybrid space situations. In this respect, the distribution of other's modes of being is material for how a migrant might conduct themselves, closer to their true self. Such doings is an exercise of what a migrant can do, given their circumstances.

Hybrid space, thus, has the potential to rearrange the composition of the host country whereby the context of the home country is enfolded into the present context of the migrant's immediate context. This is a choice that migrants can make to make their lives meaningful. For example, Robertson et al. (2016) explore how young refugees manage the absence of their families by constructing a "family imaginary" through hybrid space. Constructing family imaginaries is not new: diasporic communities have constructed family imaginaries through communication channels fostered by mail such as photographs, letter writing, and or voice cassettes (Leurs & Smets, 2018). It is only now, in our emerging technology situation, that such imaginaries are now ambient. All in all, the "mixed reality" discursively becomes the hybrid reality: the migrant moves through a reality in which they create a meaningful life through ambience, through connecting and connected presence. There is an agential capacity to create a way of life itself through hybrid space.

It should also be noted that living in hybrid space also subjects migrants to choices they must make. As an example, in the case of migrant mothers, hybrid space subjects women into performing gender-specific duties from a distance. The relationships enabled through digital connectivity accrue their own thing-power and become a material force in the lives of both migrant mothers and their children. Mobile phone parenting reconfigures the relationships

between migrant mothers and the children they must leave behind, and this reconfiguration brings about new agential relationships and rules of conduct. Madianou and Miller (2011), for example, describe a glimpse into the routine migrant mothering from the perspectives of both mothers and their children. United Kingdom-based Filipina mothers will arrange a weekly phone call with their children in the Philippines. Although they are far from their children, they must still perform the routine labor of care from a distance. They are required to be aware of things and of each other from a distance, although some children have reported that they felt it was burdensome. Migrant mothers' mobilities are governed by the very materialities that emerge from hybrid space.

From this, we understand that new relations reconfigure existing power relations, and they also invite ambient power into forced migrants' sociotechnical assemblages. Just as migrant mother mobilities are governed by the very materialities that emerge from hybrid space, forced migrant mobilities are being governed by the materialities that are associated to the infrastructures that enable hybrid space. For example, Gillespie, Osseiran and Cheesman (2018) explain, "the refugee journey has become a media as much as a physical journey" (p. 1) and a "digital passage" (Latonero & Kift, 2018). Building on this, as this dissertation argues, the forced migration journey required a hybrid mobilities passage. Digital media use, such as smartphone use, has significantly altered migration routes beyond the affordances of the device such as location-awareness or wayfaring. Use has gravitated journey flows towards areas with WiFi hotspots. In turn, forced migrants are looking to find infrastructures such as WiFi associated to their devices. These associated infrastructures have become as critical as road or railways for forced migrants in hybrid space.

Nonetheless, by calling these connected information spaces *hybrid space*, de Souza e Silva (2006) purposefully rejects the distinction and the borders between physical and digital spaces. This means there is not a distinct division between the social interactions that occur in physical space and those that occur in digital spaces. Individuals no longer have to wait to be in physical presence of each other to communicate: they can do so through their mobile yet connected information spaces, but at the cost of distributing both their modes of being and their agential capacities. But, the silver lining is that hybrid space allows for the use of the technologies of the self. de Souza e Silva explains that users can change their interactions with space: as an individual moves through space, such as a city, “always being on” transforms their experience of the space by enfolding remote contexts into the present context (p. 262). This simultaneously brings about new modes of being and techniques of power—materializing in new subject formations and possibilities of agency. Thus, ambient rhetoric and distributed agency are aspects of hybrid space that are crucial in understanding how power is distributed among and through socio-technical assemblages and mobility assemblages. In the rejection of these borders between digital and physical environments, it can be inferred that the power or agency that one can appropriate from either environment becomes a net possibility of power or agency for a user.

Conclusion

Governmentality refers to the ensemble formed by institutions, procedures, analysis, reflections, calculations, and tactics that allow the subjects to be governed, and it refers to the logics and practices of government (Bærenholdt, 2013; Jensen, 2011; Lemke, 2015). Mobility scholars have used the application of Foucault’s insight to develop the concept of governmobilities (Bærenholdt, 2013; Jensen, 2011) to argue that governing mobility has become a key task of

governments. This insight can be useful for scholars studying forced migrants and digital migration, but because mobility is a practice that is constituted in and by sociotechnical assemblages, this constitution is what makes ambience possible.

From Barad, we understand that process are material and factor into the formation of subjects, and that agency is relational. From Bennet, we understand that all things are vibrant matter and together exude agency that is distributed relationally. From Rickert, we understand that it is not only agency that is distributed, that in light of our media condition of networked communication, the formation of subjects is distributed across the points of connectivity. Together, the layered insight that both subject formation and agency are distributed in hybrid space, but that these relations are material adds to how we understand Foucault's process of subjectification—as in, practices through which people are governed by others such as institutions and influences (Manderscheid et al., 2014) and Foucault process of subjectivation—or, the practices of self-fashion through which individuals govern themselves—is a concept to understand the ways in which relations of subjectivation can manufacture subjects.

I conclude that communication, or connectivity, in hybrid spaces materialize into material-discursive relations that have material outcomes on the bodies of forced migrants. Through the example of migrants and hybrid space (enacted through mobile media and mobility), I have shown that mobile media mediated relationships from a distance materialize into the immediate space of migrant lives and materialize into the reconfigurations of what makes the subject and what the subject decides to make with their lives. Additionally, co-presence and connectivity materialize to enable an ambient rhetoric in which the subject deploys the technologies of the self to counter the technologies of power that mediate the migrant's sense of agency. Thus, the relationship between the formation of migrant subjects and agency in hybrid

space is one that is distributed, leaving more possibilities for both resistance and also further governmobilities. Nonetheless, this insight can be useful for understanding the implications of how digital connectivity, particularly in hybrid spaces, affects what a forced migrant can and cannot do in terms of their distribution of agency as they themselves are distributed and susceptible to ambient power or ambient governmobilities. I explore this in the following chapters through the examples of bordering technologies and creative appropriations.

Chapter 2: Bordering Technologies and Kinopolitics: Governmobilities, biopolitics, and mobile conduct

Migrants and mobility regimes on a tourist island, *an anecdote*

In the previous chapter, I discussed how hybrid space distributes and makes material-discursive relations ambient, conditioning both how subjects are formed and how they are able to conduct themselves or exercise agency. In this chapter, bordering technologies and its practices are leading examples of how hybrid space diffracts power relations. Border sites produce codes of conduct. Take, for example, the U.S. East Coast border seascape. My U.S. citizen friend from Michigan, Taia, has migrated to the Florida Keys in the pursuit of a better, warmer, life and the lucrative income opportunities in the real estate market. Over the years that I have been visiting the Florida Keys, I consider the irony of the U.S. East Coast border seascape and how the border subjugates us based on population. Key West welcomes most but not all kinds of international travelers. You can hear the humming of Spanish, French, Chinese, and so on. It is a 4 by 1.5 miles long island pumped with traveling migrants traveling by air, ground vehicle, and sea routes. There were over 2.9 million total “tourist” visitors to Key West in 2018 (*Economy Trends of Key West and Monroe County*, 2019). If this statistic were to be averaged, it would be approximately 8,000 visitors per day last year—but this isn’t the case because of high and low tourist seasons.

Nonetheless, if you are an acceptable or desired traveler, Key West is designed to facilitate your mobilities through the island city. An assemblage of social norms and histories, capital interest, desires, and mobility infrastructures intra-act (Barad, 2003) to give shape to collective behaviors. These relations result in the material-discursive formation of codes of

conduct for many tourists. For example, you are given so many pamphlets to try various kinds of mobile activities you can conduct: sailing, parasailing, canoeing, jet skiing, scuba, snorkeling, scootering, bicycling, walking tours, and so on. You pick various activities to do. You are asked if you'd like to visit its various parts, to explore as much of it as you can. You become part of so many lines to stand in. You are asked to come again. In this respect, being a tourist (and alternatively, being a migrant) is very much a material-discursive formation, articulated by the social, technical, and mobile relations you engage. But unlike a tourist, which is a learned mobile behavior, a migrant does not intend to travel back "home" again. From the film, *The Sheltering Sky*, the tourist has the mobile potential and the desire to go home again (Bertolucci, 1990; de Souza e Silva & Vesna, 2004). The tourist is anchored to their home and experiences a more lenient set of mobile capacities as compared to a migrant. The borders seem to open up for tourists; whereas, the borders seem to follow an enact stoppage (Flores, 2019) on migrants. Stoppage is a purposeful limitation on a person's mobile capability solely based on the population they belong to. Therefore, as a different aspect of the tourist assemblage, many migrants are moored at sea so that tourist infrastructures and tourist mobilities can persist. The social codes of conduct scripted for migrants seeking entry into the U.S., which I will discuss as material-discursive formations, is for them to be stopped and or re-routed elsewhere.

Although, Cuban migration through the U.S. East Coast corridor has experienced a significant decrease since 2017 as a result of the Obama Administration's termination of the "wet-foot, dry-foot" policy that allowed those who had reached land to stay and apply for residency, it still continues today. Just recently, the *Miami Herald* reported that a group of Cuban migrants landed in the Florida Keys on a makeshift boat (Goodhue, 2019). But moreover, before the onset of this policy termination—as early as 2012, the U.S. Coast Guard was already

reporting that Cubans and Haitians have been using new and creative routes that avoid the state of Florida altogether. Some Cubans have entered by first flying to smaller Caribbean islands where they have visitation privileges then made their way towards the U.S., while almost 40% of Haitians have dangerously extended their routes through the Dominican Republic and into the U.S. territory of Puerto Rico (de Diego, 2019). This is to say that what is produced at border sites is a code of conduct alongside governmobilities, but migrants are now turning to other mobile infrastructures where codes of conduct have not yet been inscribed by figures of authority. Taking such dangerous and alternative routes is a way for migrants to behave outside discursive formations of conduct and shows the gaps in mobility regimes—while at the same time, the presence of the Coast Guard or of simply being discovered also shows the reach of mobility regimes, especially those associated with bordering practices and bordering technologies.

In any context in the governmentality of mobility, there is an uneven distribution of the capacities and potential for movement, and this asymmetric distribution of mobile capacity is exacerbated by biopolitics, or the formation of populations. The categorization of migrants in an area such as the Florida Keys into “tourist” or “illegal migrant” is an example of governmentality and biopolitics at play. Mobility spans multiple scales. It depends on the social and technical infrastructures that support it and the materiality of the larger assemblages that connect or disconnect these infrastructures, or mobility regimes (Sheller, 2016). At the heart of mobility regimes, enabled through governmobilities and biopolitics is kinopolitics. Kinopolitics is the theory and the analysis of social motion and the politics of movement (Nail, 2016, p. 24). Similar to the New Mobilities Paradigm—which posits that societies and places are mobile and networked, rather than static and isolated (Sheller & Urry, 2006), kinopolitics posits that

societies are regimes of motion and that societies and social relations come into being because of such regimes.

Rather than simply stating that everything is on the move, both the New Mobilities Paradigm and the framework of kinopolitics advocate that there is an inherent politics to the construction of mobilities and the agential capacity for mobility. Where there are mobilities, there are immobilities (Hannam et al., 2006), and likewise, kinopower operates on a dual logic of expansion by expulsion in which some members of society are disposed of their status in order for social power to be expanded elsewhere (Nail, 2015, p. 36). Both theoretical lenses help mobility scholars to understand that the asymmetric geometries of power (Massey, 1993) are constituted and shaped through mobilities (Nicholson & Sheller, 2016). However, kinopolitics offers tools that are useful in understanding the nuances of bordering practices and mobility. It incorporates three key concepts to understanding how societies—including the formation of subjects—emerge out of kinetic structures. Kinetic structures are not the structures themselves but the flows—the inherent mobility of things—that compose them (Nail, 2019). Flows, folds (or junctions), and fields of circulation are tools that can help scholars understand the inner workings of mobility regimes. For this chapter in particular, kinopolitics helps us to better understand the role of bordering technologies in the maintenance of controlled productions and reproductions of mobilities and mobile and immobile subjects such as forced migrants.

Borders are sites of kinopolitics. Borders have been thought to function as a technology of inclusion and exclusion, of keeping in and keeping out, or of marking and identifying a territory. But borders are more than this, and much more complex. Border studies has advanced its analysis of borders beyond the scope of territory to address critical issues such as the interconnected consequences and affordances on the production of subjects within the ecology of

borderscapes (Agnew, 1994; Brambilla, 2015; dell’Agnese & Amilhat Szary, 2015; Loong, 2019). But, with the onset of advancing bordering technologies and practices that make use of mobile media such as drones, sensors such as motion and or thermal imaging, and integrated communication networks, new configurations of the border space are emerging and changing the reach of mobility regimes.

Migration technology involves the transfer of digital material from one software or hardware configuration to another, even from one generation of computing technology to the next (Dijstelbloem et al., 2011). Take for example the finger printing system that is now integrated into biometric systems. Data stored and communicated through information systems is gaining authority in the management of mobilities. Biopolitics and governmobilities are converging at the onset of “smart” bordering technologies (Vukov, 2016). Such bordering practices fundamentally reduce sorting the world into a logic of categories such as friends, enemies, and potential enemies with no other meaningful categories that can be acted upon (p. 88). Or, in the case of migration, forced migrants are characterized and classified, granted or not granted asylum. For purposes of mobility, this means there is a limitation to a person’s capacity to appropriate for mobility, or motility (Kaufmann et al., 2018), and a limitation on mobile capabilities (Sheller, 2018b). Adding to this logic and set of limitations, hybrid space introduces another set of challenges. Hybrid space is mobile, emergent in nature, contingent on connectivity, and has the capacity for distributing both subjectivity and agency, as discussed in the previous chapter (also see, de Souza e Silva, 2006). As bordering practices engage in the use of mobile communication technologies such as the combined use of drones, sensors, satellite imaging, thermal imaging, and other various networked information systems, bordering practices bleed into hybrid space. Bordering practices, then, too, take on the qualities of users of hybrid

space and are capable of being mobile, emergent, networked, ambient, and—most alarmingly of all—co-present. The border’s hybrid space condition of being continuously co-present is an ethical and civic problem because it subjects civilians, those who compose a public, to unwarranted surveillance. It is problematically granted authority, and it is continuously prepared to categorize us accordingly to detectable conduct.

Although studies have covered the theme of migration and technology in meaningful ways, more studies are needed to understand what is produced out of this relationship between borders and networked communications and how *networked bordering practices* are conditioning mobile capabilities. Early on, scholars have recognized the role of software and hardware in migration and bordering practices (Baron et al., 2014; Ponzanesi & Leurs, 2014). Others have extended these studies to examine the role of mobile devices and social media platforms in connecting migration routes or in the migration experience (Frouws et al., 2016; Gillespie et al., 2016; Sánchez-Querubín & Rogers, 2018; Gillespie et al., 2018). However, these studies integrated issues of bordering practices into the theme of navigation or connecting routes and so bordering practices were not the primary focus.

In another approach, scholars focused attention on the materiality and changing configurations of the border, which is where this study draws its inspiration. Studies looked at the changing materiality and mobility of bordering practices (Vukov & Sheller, 2013). For example, studies examined how bordering practices are turning electronic signals into borders in lieu of walls and fences (Jansen et al., 2014) or the sea into a liquid border that is monitored by the integrated system of satellite surveillance such as Eurodac (Bigo, 2014). Other studies looked at how access to communication and digital infrastructure could be a method of bordering (Trimikliniotis et al., 2015) or how connectivity or lack of connectivity to communication and

mobility infrastructures could result in an “islanding effect” that cuts off those islanded from both communication and mobilities (Sheller, 2013b).

Moreover, because “illegal immigration” has been such a hot topic in the news, popular press articles have contributed to bringing awareness about issues concerning migration and bordering practices. These reports have illuminated situations in which bordering practices are shifting to hybrid space. Instead of building a border wall, the Burmese government has instated a SIM-card ban on all non-citizens. The effects of this policy create a border for Rohingya refugees, one that disconnects mobile communications and access to digital infrastructures (Beech, 2018; Beech & Nang, 2019). Although not directly related to forced migrants, in the past, it’s been reported that Syrian President Bashar Assad manually cut off internet access and cellular broadband connectivity to Syrian citizens as a way to control the political climate (Machman, 2013; Shachtman, 2012). Recently, the Turkish government was reported to have done something similar by shutting off access to social media sites while the government conducted a military strike against Kurdish forces in Syria (Martineau, 2019). The strategy of controlling access to mobile technologies and networked communication and information is similar to the previously mentioned islanding effect (Sheller, 2013b), where communication and technology are charged in doing the bordering work—in creating the space of exile. Although, these studies discuss the changing configurations of borders, at its core, they rely on the logics of inclusion and exclusion. How can new configurations still maintain similar results?

No doubt, hybrid spaces have increased the potential of governmobilities’ distributive power. Institutions are innovating on ways to exercise biopolitics through biometrics and through the data absorbed from and communicated by locative technologies and mobile media. This means information about forced migrant bodies can be extracted from the spaces, especially

hybrid spaces, they occupy. For forced migrants, who rely on digital infrastructures, locative media, mobile devices, social media, and connected presence, this means the use of mobile communications and networked information becomes even riskier (Gillespie et al., 2018; Latonero & Kift, 2018). Forced migrants may continue on their migration routes, but, in the context of bordering practices that engage hybrid space, forced migrants are unable to ever really “leave” the border space as it is now ever co-present and continuously on.

In this chapter, I build my argument on the premise that mobile networked bordering practices are made of sociotechnical and kinetic assemblages. In order for bordering practices to engage in kinopolitics and the governing of mobilities on such a large scale, these practices are networked into our social, technical, and mobility systems and infrastructures. As such, as a guiding question for this chapter, my aim is to understand *how bordering practices in hybrid space are extended and intensified through digital media use and how this shapes the distribution of forced migrants’ agency*. I use kinopolitics as a method to analyze two examples of forced migrant experiences against the backdrop of mobile networked bordering practices. I examine 1) Eurodac as an example of networking communications and information and 2) “traveling” migrants as an example of how hybrid space extends the governing of mobilities and mobile conduct. Although these two examples are very different from one another, it’s my hope that by placing the differences alongside one another, there might be an opportunity to observe patterns among them such as how hybrid space and mobile bordering practices are increasing or extending the reach of mobility regimes. For example, from Chapter 1, I’ve discussed how mobile media users access hybrid space through their devices and how doing so enfolds space (de Souza e Silva, 2006). Digital space and physical spaces are enfolded as well as distances. This means mobile media user can move through a mixture of digital and physical space via their

mobile devices—engaging in mediated mobilities (Keightley & Reading, 2014). I offered the example of the Filipino migrant mother uses her mobile phone to mother her children while she is working abroad. Through her mobile phone, she mediates her mobility of a distant domestic space and can ambiently mother her children within this hybrid space. This means, even bordering technologies that are stationary such as a database (for example, Eurodac is a large database) can mediate its mobility and extend its ambient co-presence across multiple territories and nation-states through hybrid space. This is possible due to Eurodac’s networked communications. The ambient bordering power of Eurodac to stop, categorize, and identify forced migrants operates through hybrid space through mobile media and kinopolitical infrastructures. Therefore, through the framework of kinopolitics, I argue that hybrid space increases the distribution of bordering technologies’ ambient power; thus, bordering technologies’ presence, though located within a designated territory or range of space, can take on the qualities of mobile media users and extend their presence by enfolding local and distance spaces.

To build my argument, I start with a review of the literature on the governmentality of mobility, borders, and digital media use on forced migrants’ migration experiences. Following this, I discuss kinopolitics as a method in order to elaborate on how sociotechnical and kinetic assemblages play a role in the controlled reproductions of mobile conduct. Although Nail (2016, 2019) has already invaluablely discussed these themes, I add to this discussion by focusing on the idea that bordering technologies produce material-discursive formations in lieu of “expansion by expulsion.” As such, I argue that bordering practices and technologies, as understood under this nuanced lens of kinopolitics, results in the production of material-discursive forms that lead to the formation of populations (different kinds of migrants) and mobile capabilities that are coded

for particular kinds of mobile conduct. However, within the context of hybrid space, I argue that such mobile conduct is regulated through a series of networked communications because the hybrid border space is continuously on and moves with the person. In conclusion, bordering technologies and their circulation as kinopower are multiplied, extended, and distributed in hybrid space by the process of yoking through mobile technologies. As such, the material-discursive formation of mobile subjects is produced and reproduced as a result of not only discursive realities but also of technological and material realities. As an implication, the history of bordering practices and technologies is a history of population control.

Understanding the context of mobile networked bordering in hybrid space

What is a border? It used to be that the way border was defined in the scholarly literature didn't vary much from the basic dictionary definition—but much has changed since the processual turn of the 1990s. To begin with, definitions the *Oxford English Dictionary* articulate border as a noun to be "...the boundary line which separates one country from another, the frontier line... a strip of ground in a garden, forming a fringe to the general area..." and as a verb "to form a border or boundary to; to bound; to put a border or edging to..." From these definitions, a general theme of territory emerges as the basis of these definitions. Similarly, border research, which started as a subfield of political science and international relations, started off conceiving border as the demarcations of sovereignty or governmental territory lines (Brambilla, 2015; Gilpin, 1981; Waltz, 1954; Sidaway, 2011). Borders in this respect were conceived of as quite static: a fence, once posted, stayed in its place, and a stable nation-state's borders remained mostly intact. However, understanding borders in the service of territory takes away from what a

border can do and what bordering practices can do (takes away the disciplining effects of what a border can do), especially in a hybrid space context.

From a mobilities perspective, borders are kinetic structures that process the circulation and (re)production of things within mobility regimes. In *Theory of the Border*, Nail (2016) explains that borders are, all at once, repressive and productive. Borders repress some things from circulating and moving within a space while allowing for other things to circulate and move about. As Nail (2016) explains, the border is a process of social division, and it introduces division into the world. Like a pair of scissors, the border itself is not actually a part of the territory or paper that it is used to make the cut unto (p. 3). Borders are not contained within states, even though historically, borders have been used to cut into and divide states. Its common job, regardless of its relative manifestations (as the fence, wall, cell, checkpoint, frontier, limit, march, boundary, and so on), is to enact the process of social division through controlling mobility.

Borders divide in two ways: *extensively* by introducing breaks and *intensively* by adding new paths to the existing one. As the border increases its division of social space, it also multiplies it (p. 4). This is also referred to as the process of expansion by expulsion (p. 34). It becomes more dispersed through its process of division. For this reason, the border is paradoxical: it can be experienced as a discontinuity by some and as a continuity by others. But ultimately, borders are an active process of (re)directing flows of people and things across or away from itself. It is constitutive of and constituted by society, and societies cannot exist without them (p. 5). For instance, a “purely pre-social, undivided surface” is called the earth or the world (p. 5). For this reason, borders have been integral in setting the boundaries of societies as well as the divisions and conduct within those societies.

From border to bordering, from thing to process

Since the processual turn of the 1990s, there has been a processual shift from the concept of the *border* to the concept of *bordering* (Brambilla, 2015, p. 15). Border studies scholars shifted from thinking about what is a border to wider questions such as what does it do? Bordering entails that borders be viewed as dynamic social processes and practices of spatial differentiation to reflect the globalized social, economic, and information flows in which borders are now reconfigured. As such, borders are polysemic, taking on many forms, functions, and meaning at many levels (Balibar, 2002). Borders are designed to give different people different experiences. This means, borders are all at once symbolic and material (Brambilla, 2015). For example, they are imaginary, figurative, or ideological, capable of differential social inclusions and exclusions; and, they are made through policies and “brick and mortar” (Cisneros, 2014; Mezzadra & Neilson, 2013). Borders and their functions can go beyond their own borders (Ono, 2012). They move through the movement of others (Nail, 2015). Some activists, such as the 2006 immigration rights activists in the United States, have rhetorically protested that “We didn’t cross the border, the border crossed us” (Cisneros, 2014, p. 1). Borders are also virtual and semiotic, deeply connected to communication systems and discursive practices that rhetorically communicate their significance (Vukov & Sheller, 2013). They are constructed spaces that are mobile and relational and are constantly evolving (Appadurai, 1996; Rajaram & Grundy-Warr, 2007; dell’Agnese & Amilhat Szary, 2015). To this end, the border has vitality (Bennett, 2010) and is capable of doing things (Appadurai, 1996).

Bordering practices integrating mobile media and communication

Bordering practices are increasingly relying on mobile media and communication networks to take on new configurations within mobility regimes. Vukov & Sheller (2013) state, “The shifting border regimes that are emerging around the world are re-distributing and intensifying borders through a range of different registers...” (p. 226). They explain that new technologies such as bio-information and remote surveillance have emerged as key infrastructures of the reconfigured mobility regimes. For example, the U.S.-Canada Nexus program uses biometric technologies to expedite the entry of pre-screened desirable travelers (Popescu, 2011; Vukov & Sheller, 2013). If you are business-class traveler, your mobility is made a priority. In another example, the SBI-Net program, also known as Project 28, first signed under President Bush in 2005, was proposed to be a virtual fence across the Southwest border (Preston, 2011). Vukov & Sheller explain,

Boeing’s pitch was for a system of 1800 towers that would create a virtual fence through an integrated command system combining radar, cameras, thermal imaging, ground sensors, motion detectors, and wireless broadband into a “common operating picture” (COP) or geospatial display of real-time border movements in the command center. The different sensor technologies and radar would first serve to “detect a target,” then relay and compile the combined operating picture to the command center, which would then be transmitted to border patrol agents equipped with laptops in their vehicles along with GPS-enabled personal digital assistants (PDAs). (p. 234)

Through these advances, Vukov and Sheller explain, the geography of the border fence has itself become mobile. However, after a pilot program of Boeing’s proposed project was conducted in Arizona and cost \$1 billion dollars to build across 53 miles of the state’s border, the Department

of Homeland Security finally canceled the SBI-Net project. Instead, officials would use mobile surveillance systems and unmanned drones (Preston, 2011).

Currently, a mix of mobile sensors and mobile communications are used in bordering practices. In the United States, there is a lot of emphasis on the U.S. Mexico border. It is the site of 47 land ports of entry for commercial trucks, vehicles, and pedestrians while one-third (about 700 miles) of this border is lined with some kind of wall or fence (Berkowitz et al., 2019). On one level, there are dogs, large x-ray and gamma-ray cargo scanners, and radiation detectors that collect sensory data to prevent the entry of unwanted goods such as drugs. Ground-penetrating radar have also been used to detect not just goods but also mobile pathways such as underground tunnels. On another level, there are various types of electronic surveillance technologies that work together and that are used together to detect “activity” apart from inspecting commercial goods. Rhetorically, these patrolling and detection measures are intended to keep out unwanted merchandise such as drugs and to prevent drug trafficking, but they have also become useful in keeping out unwanted migrants and identifying human trafficking. For example, ground sensors detect human footsteps in area that are within range of the nearest Border Patrol station. Paired with cameras, ground sensors are designed to differentiate between animals, cars, low-flying planes, and pedestrians. When triggered, border agents at control centers are prompted to view footage that is capture on the camera. Moving to the aerial method of surveillance, towers offer increased visibility of up to 7 miles to spot groups of people and track them as they walk. Surveillance drones patrol from the air by transmitting live video footage captured by infrared and radar images. Some drones produce high enough quality images that they can help agents identify a person’s height and weight (Bier & Feeney, 2018). From an even higher perspective, satellite surveillance images assist agents in determining different patterns of foot traffic. To add

to both these ground and aerial methods, the Department of Homeland Security has allowed agents to use commercially available location data to identify the presence of cell phone activity and locate it within the border area (Kaplan, 2018). Even in areas where there isn't cellular data, agents are able to intercept the signals of walkie-talkies (Berkowitz et al., 2019). In addition to this, agents are on the ground geared with night-vision goggles and SUVs with radar detectors to locate and apprehend unwanted persons. Agents are trained to use classic tracking methods such as following footsteps from the last known location, if agents—with the aid of their electronic technologies—lose track of the unwanted persons (Berkowitz et al., 2019). As it appears, bordering technologies are not only detecting the presence of individuals, they are also engaged in detecting the presence of communication itself in the border space.

Bordering practices are engaging in a networked use of mobile devices, interconnected communications, and targeting social relations that occur in both physical and digital spaces anywhere within the border space. Adding to this mix, devices such as radars that were not typically mobile are either now both hand-held and mobile or are being mounted onto SUVs, drones, planes, and boats to make them mobile through their assembly. In turn, the detection of both migrant bodies and migrant communications is now mobile. Bordering practices are occurring more so on the screen than they are on the ground, and so, the hybrid context in which bordering technologies and practices are mobile and networked raises concern about the agency of forced migrants.

In the following section, I summarize Foucault's concepts of governmentality, biopolitics, and population to illustrate how the trio of concepts show that they are technologies for directing human conduct. Mobility scholars, such as so and so, connected Foucault's concept of governmentality to the governmentality of mobilities (Jensen & Richardson, 2007), which was

later developed as governmobilities. Bærenholdt identifies mobility as a discursive formation of governmobilities. To this effect, I add that mobilities (inclusive of mobile conduct and mobile capabilities) are material-discursive formations of governmobilities and biopolitics (for the context of forced migrants and the scenario of borders). It is demonstrated that mobilities is conditioned by the material (including the social, technical, and mobile infrastructures) and the discursive (ways of knowing, beliefs about what is true) relations of a mobile subject. Thus, borders and governmobilities are not about territory; instead, they are concerned with the organization and categorization of people into populations to which their mobile conduct can be directed. In the remainder of the chapter, I use kinopolitics to understand how this organization and categorization occurs in the context of hybrid border space to direct migrant's mobile conduct.

Governmentality, biopolitics, and the making of populations

In the 1970s, Foucault started thinking about governmentality, the techniques for directing human conduct. Broadly, governmentality refers to the assemblage of rationality and practices that shape the administration of populations and the calculation of different collectives.

Governmentality, Foucault believed, was not limited to bureaucracies of the modern nation-state. These techniques could be exercised widely from institutions of education to institutions of commerce. These thoughts arose alongside his thinking about biopolitics, which focuses on the administration and regulation of life processes at the level of populations (Lemke, 2011). Within biopolitics, biological features such as race, gender, or some kind of characteristic that is knowable about a group are measured, aggregated, and applied at the group level or the level of

the population—making it possible to analyze processes of life, define norms, and govern populations individually or collectively based on this knowledge.

Biopolitics, alongside the authoritative qualities of governmentality, set the conditions that make populations possible. Populations, therefore, emerge out of administrative practices that seek to specify and reorganize social relations (Foucault, 1978, p. 515). For example, for forced migrants—specifically referring to refugees, asylum-seekers, and those precariously displaced—the techniques of biopolitics makes it possible to aggregate forced migrant experiences and use such aggregations to determine actions against a diversely composed group of people with unique experiences that is articulated as a single kind of reality or experience among all migrants. This occurs at the U.S.-Mexico border space as Central Americans and Mexicans are both aggregated as a population who is “undocumented” and is thus subject to being detained. As a person belonging to this group, their social relations are regulated based on the element of being undocumented. The actions upon such persons are governed by this knowledge about this population. Forced migrants become subjects to the asylum-seeking system where the fate of their lives hinge on the rhetoric of their asylum claims. Their subsequent choices of conduct are directed. They are to be detained and either granted or denied asylum. At the most basic level, governmentality and biopolitics engage in a relationship of producing and regulating populations, or rather political economies of subjects, as well as economies of conduct.

Mobility regimes, governmobilities, and mobile conduct

Mobility is a conduct that is regulated by mobility regimes, and, yet at the same time, it is also self-regulating through local knowledge about mobility practices and knowledge. As such,

the concept of governmentality has been useful in the interdisciplinary field of mobilities studies to understand how mobility is regulated. Within the context of the European Union, a region composed of many Member States, scholars have used the *governmentality of mobility* to understand the changing relations between citizens and the European Union's internal borders (Jensen & Richardson, 2007). Such scholars suggest the governmentality of mobility is a practice that produces imagined mobile subjects and persuasive stories, or knowledge, about how life or a specified range of mobilities will be carried out (pp. 137-38). For example, if you are a business-person, it's believed that you are able to pass through the border corridors easily because they have business or a purpose in moving through such borders. In turn, the mobilities of citizens are regulated by the border corridors, but they are also self-regulated based on the knowledge of who should and shouldn't pass through. This knowledge about who should and shouldn't pass through becomes integrated into not only the migration laws and policies, but this knowledge is also integrated into the social imaginations of the social body.

Mobility follows a code conduct that is negotiated based on knowledge about mobile practices, legal capabilities, mobility infrastructures, and social imaginations. Scholars suggest there is a close relationship between borderwork and knowledge practices. Borderwork as a mobility regime changes the imaginations about who is and isn't the mobile subject of mobility infrastructures (Jensen, 2013). Mobility regimes refer to the systems and infrastructure that enable the movement of people, things, and data. The term *governmobilities* was developed to refer to mobility as a political technology and as a way of governing through the assemblage of mobility infrastructures (Bærenholdt, 2013, p. 20). In this conception, powerful mobilities such as urban or spatial designs become governing principles. Thus, *governmobilities* describes a situation where the regulation and normalization of mobilities are internalized in people's mobile

practices and conditioned by the systems in which they are embedded (p. 29). For this reason, it's been suggested that mobility is a *discursive formation of governmobilities* (p. 32). For example, borders are a technology of governmobility that attracts, organizes, and regulates mobility around routes and norms of conduct for people and things. What is produced at border sites are populations and mobilities. People are categorized into types of border crossers, if you will, such as business, tourist, student, undocumented and so on. In this manner, they become populations who engage in normalizing the mobile conduct of their population. As such, a person who has not obtained a visa for a country that requires them to have one for entry should not try to attempt entry without one. Those who do anyways are categorized as illegal migrants in the United States and irregular migrants in the European states.

Mobility as a discursive formation of governmobilities

From *The Archeology of Knowledge*, Foucault (1969) defines discursive formations as a system of dispersion. This system dispenses knowledge and the rules of formations. When Bærenholdt (2013) argued that mobility is a discursive formation of governmobilities, he was referring to the idea that mobility resulted from the dispensed knowledge about laws, policies, standards and common practices around kinetic structures. For example, crossing the street is a discursive formation involving knowledge about when it's safe to and where to do it. People cross the street in a general manner; otherwise, it's considered jay-walking, and in any case, jay-walking still belongs to the discursive formations of crossing the street. For Foucault, the formation of possible objects is conditioned by the rules of formation, which restrict the grouping of concepts even if they are disparate concepts, such as crossing the street properly and jay-walking (p. 60). In this manner, different elements are then configured to be related to one

another to form a unity. Furthermore, discontinuities or inconsistencies “divide up the field of which it is the effect” (p. 9). By this, the field of crossing the street (the possible ways this can occur) is divided into and associated to proper conduct that is articulated through knowledge about common laws and practices. Yet, at the same time, the improper ways of crossing the street also reifies the proper ways of crossing the street. The contradictions help to give shape to what a thing is or is in the trajectory of becoming. Hence, discontinuities are actually integral to the unity of the discourse. Thus, mobility at the border can be understood in a similar manner in which all the possible ways of engaging with the border are somehow deemed illegal or irregular if it does not conform to the categories established for acceptable mobile behavior. For Foucault (1977), the people corresponds to the legal logics of sovereignty and citizenship while population is the target of biopolitical government. Thus, to be governed, the population needs to be grouped (placed into economies), known, and discrete. Populations and their conduct follow the discursive rules of formation. The creation and organization of populations is central to the creation of new orders of knowledge, new objects of intervention, new forms of subjectivity, and new forms of state authorities (Curtis, 2002) such as the new licensing of bordering technologies to extend the task of governing mobilities.

Mobile conduct is a result of the logics of governmobilities because mobility choices are rhetorically dictated by knowledge, laws, common practices, as well as the design of mobilities. For example, transportation and communication infrastructures are designed to fit the planner or policy-maker’s imagination about the user or the audience of their design. They control and anticipate how particular groups of citizens will exercise their mobility in a given area, and this can marginalize others who are not imaginable (p. 140). This is how governmobilities have ambient power (Allen, 2006). As I have discussed in Chapter 1, individuals are not fully formed

as they engage in the social world, but they are constituted in and through sets of social relations that are infused with power. For instance, power is ambient and rhetorical because it is an atmosphere; it is ecological; and it is that which we are embedded in (Allen, 2006). We are embedded into a myriad of kinetic infrastructures. These infrastructures are rhetorical in that they are suggestive (or rather, persuasive) and incorporated into our everyday decisions. And, they are political, in that forms of access are built into the infrastructure and the materiality of the systems that support mobilities (Sheller, 2018b, p. 166). Thus, governmobilities materially influence mobility decisions: in this manner, governmobilities are ambient. This can be seen in the example of lower-income residents of Rio de Janeiro succumbing to using *WhatsApp* and to create their own unauthorized communication system to locate buses that were not running on time (de Souza e Silva & Xiong-Gum, forthcoming). Thus, (im)mobile subjects are subsequently produced through the governmentality of mobilities, the authoring and authorizing of mobilities.

Some scholars argue that subjects created at the border are constructed as highly differentiated to be capable of proving human capital (Mezzadra & Neilson, 2013, p. 174). This is a premise in Nail's (2015) *The Figure of the Migrant* in which the formation of migrants is integral to primitive accumulation—what Marx refers to as the pre-capitalist condition for capitalist production (p. 86). Primitive accumulation is a material history of social movement. This history recounts how the control of the social movements of one thing facilitates the social movements of other things. Nail refers to this as expansion by expulsion (p. 24). In this scenario, expansion is not about spreading across a space or territory; rather, expansion is continued movement. It is similar to the notion that where there are mobilities, there are moorings (Hannam et al., 2006), but differs in that it this approach specifically refers to the phenomenon of migrants and how the regulation of their mobilities affords an economy of other mobilities, much like the

example of Key West mentioned in the introduction. For economies to be operational, there must always be a steady supply of workers to keep things moving. Migrants are kinetically divided, meaning their mobile capabilities are purposefully disengaged, from social relations in order for them to serve as a surplus population. In this manner, migrants serve as the accumulation of stock, a necessary pre-condition to the division of labor. However, unlike the scholars who conceptualize bordering practices within a capitalist framework (Balibar, 2002), Nail (2015) considers bordering practices within a mobilities framework. A mobilities framework, or a kinopolitical framework, helps us to better understand why it has been crucial to control and regulate mobile capabilities, especially in cases dealing with forced migrants. Thus, migrant populations are discursively formed into surplus populations (p. 86) for the purposes of capitalism, but also to sustain societies. This can be clearly seen in the example of the U.S.' relationship with "illegal migrants." Migration and mobilities scholars have noted that "we do (not) want migrants," signaling attention to the U.S.' long history and conflicting desire for migrants as a supply of cheap labor and the U.S.' simultaneously desire for immigration control (Flores, 2003, 2019). Undocumented persons are always welcomed to work in the fields, but they must always only be seen on the fields taking the formation of being in the fields. When they are capable of other formations, of other mobilities, then that's when the U.S. has an illegal immigrant issue.

Material-discursive formations that condition mobile capabilities

Mobile capabilities are shaped by ambient power through material-discursive formations. This means, mobile capabilities are incorporated into infrastructures and everyday decisions about mobility. A migrant's agential capacity is the result of *intra-actions* (Barad, 2003, 2007) between

existing material sources such as governmobilities that condition the physical, social, and even legal possibilities for movement and between the discursive sources such as knowledge that's produced about what kinds of mobilities are possible or are appropriate. In this manner, mobile capabilities refer to the imagined, virtual, potential, and actual mobilities a subject has access to. Mobilities scholars have referred to this concept as motility (Flamm & Kaufmann, 2006; Hannam et al., 2006; Kaufmann et al., 2004, 2018; Kellerman, 2012), a concept that refers to the possibility for mobility. It is related to the idea of mobile capabilities that comes out of Sheller's (2018b) *Mobility Justice*, which suggests that access to mobility re-makes spaces and subjects, and it "brings into play historical bodily relations, ecological relations, and wider global relations that inform the political arena" (p. 61). Sheller extends the definition of motility by focusing on what also happens to the subject in relations to their possibilities for mobility. In doing so, this sets a mobile subject within an ecology of ambient power relations through which movement is the very factor that changes or re-arranges the dynamics of power relations. My approach to hybrid mobile capabilities builds on these ideas. In addition to arguing that the hybrid mobilities are constituted in informational and physical spaces, the capability to perform hybrid mobilities are a condition of infrastructures and material-discursive relations that are built into and are ambient in the environment.

Mobile capability has some lineage to the Sen's (1985, 1993) Capabilities Approach, which was conceived as an alternative approach to welfare economics and development. It was later advanced by Nussbaum (2001) as a theory of justice and standards for human development. In short, the Capabilities Approach finds that people's capabilities are shaped by their opportunities, which are shaped by their internal capabilities such as skills and personality traits and their environment (Nussbaum, 2001; Sheller, 2018b). In Sheller's conception, a person's

environment plays a crucial role in the shaping of their mobile capabilities because the environments that people are embedded within are imbued with different opportunities or possibilities. To contextualize this, environments are dynamic as mobile subjects move through them, and they are charged with ambient power relations from the things that are connected to environments. For instance, the European Border Surveillance System (Eurosur) follows a similar strategy of using networked information. The system is embedded in the environment, and it employs drones, reconnaissance aircraft, offshore sensors, and satellite remote sensing, to detect irregular movement into the member states of the European Union (Latonero & Kift, 2018; European Commission, 2018). In this manner, Eurosur has ambient power through its network of connections; and, moreover, this ambience conditions the mobile capabilities of forced migrants—this makes the use of vessels as a method of mobility a potentially riskier choice due to its speed and obvious detection by sensors.

As more forced migrants are aware of Eurosur's detection capabilities, knowledge and decisions about mobility take shape. In addition to the discussion of governmobilities (Bærenholdt, 2013) and the discussion from the previous chapter about ambient flows of information (Sheller, 2015), ambient power and relations (Allen, 2006; Bennett, 2010; Madianou, 2016), and the ambient rhetoric of infrastructures (Allen, 2006; Rickert, 2013), it can be seen that mobile capabilities, as a result of *intra-actions*, take on material-discursive formations that repeat themselves. The repeat comes as a result of wanting to avoid Eurosur's detection technologies yet doing so shapes how mobility takes place in this environment. Meaning, future iterations of mobile capabilities are conditioned by mobile opportunities, including knowledge about common mobility practices, access to and usability of mobility infrastructures, mobility regimes, the formation of populations through thematic bordering such

as “legal or illegal” migration. Wherein, accessibility is a combined capability that is person-based and place-based at the intersection of multiple scales of the kinopolitical process (Sheller, 2018b, p. 63). Bodily differences and the uniqueness of places play into a person’s mobile capabilities and issues of access to mobility infrastructures, but as bodily differences become articulated into populations and mobile imaginaries become subsumed under the logics of governmobilities, a material-discursive formation emerges. For forced migrants, this means, their bodies are categorized as a particular kind of mobile subject—illegal or irregular—while the places they enter follow the logics of limiting their mobilities.

According to Foucault, discursive practices are the local social, historical, and material conditions that enable and or constrain disciplinary knowledge practices such as speaking, writing, thinking, and in this case mobility. As Barad (2003) explains, “Discursive practices produce, rather than merely describe the ‘subjects’ and ‘objects’ of knowledge practices” (p. 819). Discursive practices are material iterations because they require the engagement, or the *intra-action*, of matter—of things. At the most basic level, discursive practices are possible because of material conditions. For example, the discursive practices that produce an “illegal or irregular” migrant are only possible because of the laws, bordering practices, and shared social beliefs about citizenship and belonging. Without these material things, there would be no possible discourse about a migrant who is illegal or irregular. With this in mind, *material-discursive formations can be used to refer to the social, technical, and kinetic assemblages that come to not only describe but also constitute a subject.*

Governmobilities, including bordering technologies and practices, and biopolitics are material-discursive conditions that bring about “illegal and irregular” migrants, and these are the conditions that also bring about subsequent and or future iterations of illegal and irregular

migrants. Hence, material discursive formations can be seen as integral in controlling and dispensing the narrative about mobile capabilities as well as mobile capabilities. Mobile capabilities are shaped by material-discursive formations because a migrant's agential capacity is the resulting intra-action between existing and emerging forms of governmobilities that condition their possibilities for movement, or that make migrants' immobility the exact condition for other things' to be capable of movement. Thus, the border and the migrant are materializations of relations. Both are material manifestations of governmobilities and the biopolitics operationalized in bordering spaces.

Borders and governmentality are not about territory

Borders and governments are not necessarily about territory. They are about conduct, about how persons can be in the world. Populations, as well, are expected to perform and conduct themselves in particular ways that are supported by social norms, laws, and disciplinary knowledge. In *Security, Territory, Population*, from the 1977-78 lectures, Foucault explains that government is not related to territory nor is it solely concerned with territory; rather, government is concerned with the arrangement of people and things such as people's "relationships, bonds, and complex involvements with things like wealth, resources, means of subsistence, and of course, the territory with its borders, qualities, climate, dryness, fertility, and so on" (p. 134). In Foucault's estimation, governments have more influence over public conduct, more so than religious institutions. Foucault explains, it is at the edge of, or the borders of, political institutions that conflicts of conduct occur (p. 264). For this reason, borders are the sites of contesting and competing ways of conduct. Next, Foucault explains that government begins to "want to take responsibility for people's conduct, to conduct people, then from then on we see

revolts of conduct arising less from the religious institutions and much more from political institutions” (p. 264). Borders come into play in relation to issues of conduct, not so much territory.

Many border studies scholars refer to the equation of borders with territory as the “territorial trap,” in which border studies limit their analysis to the issues of territory. Agnew (1994) argues that territory is no longer an adequate tool for interrogating what and where borders are, how they function in different settings, what are their consequences, and who are their beneficiaries. To understand the border’s vitality, scholars need to look at “the multiplication of border forms, functions, and practices through their distribution and proliferation in a variety of social and political arenas...” (Brambilla, 2015, p. 15). Likewise, Sidaway (2011) proposes, “we need to think about how a variety of bordering illustrates changing configurations of the social and political” (p. 974). Understanding these configurations can help scholars to reflect on the relationship between borders, forms of power, territory, political systems, identity, otherness, and the new subjectivities that are formed as a result of bordering practices (Brambilla, 2015). In particular, understanding the configurations of bordering practices can help mobility scholars to examine the ensemble of relations, or assemblages, that enable the material-discursive formations and continued productions of migration and conduct. In doing so, scholars have argued that governmentality and its extended technology of the border are not about territory, but rather, they are deeply concerned with the control of subjectivity (Shoshana, 2012), conduct and the reproduction of “appropriate” conduct (Curtis, 2002), and technologies of population control (Murphy, 2010).

Mobilities at the border are unique and the need for kinopolitics as a framework

Kinopolitics is the political theory of social movement and takes the position that movement is continuous, but that movement is controlled (slowed down, sped up, paused) through mobility regimes. Mobility regimes, as previously discussed, are not specific to government and or legal institutions, but they are constellated into things such as government and or legal institutions, spatial designs, technological designs, practices, and ways of knowing. Mobility regimes are tangled in directing conduct, especially mobile conduct or how things conduct themselves through movement.

But, first, why is it necessary to adopt the language of kinopolitics instead of using the already existing concepts that have emerged in mobilities studies? There are many similarities among key concepts. For instance, kinetic structures (Nail, 2019) can refer to mobility infrastructures and mobility assemblages (Merriman, 2016; Salter, 2013; Sheller, 2018b; Sheller & Urry, 2006). In many ways, these concepts refer to the systems and structures that shape mobilities, or mobility regimes (Sheller & Urry, 2006; Jensen, 2013). Kinopolitics and the politics of mobility (Cresswell, 2010) refer to a similar idea in that uneven capabilities to mobility are implicit in our social and technical institutions. Or, expulsion by expansion (Nail, 2015, p. 16) is similar to the idea that where there are mobilities there are moorings or immobilities that allow for those mobilities (Adey, 2006; Hannam et al., 2006). While this issue deserves more discussion than the scope of this chapter allows for, in my usage of these terms from the kinopolitics framework, I do not intend for these terms to replace those of the mobilities framework. Instead, I use these terms as a supplement, as a way to offer a more nuanced understanding and analysis of the mobilities that occur specifically at border spaces and specifically among migrants. For instance, the politics of mobility (Cresswell, 2010) outlines a

notion of ‘constellations of mobility’ that takes into account the history of movement, the meaning of movement, and the forms of regulation that enable movement. These approaches go beyond gender, racial, and global inequalities to focus on the histories and politics of movement (p. 17). But, this approach is focused on the human aspects of mobility. Whereas, in the case of looking at mobile media, the framework of kinopolitics (Nail, 2016, 2019) offers a lens for understanding the histories and politics of movement of non-human mobile subjects. As another distinction, the politics of mobility situates movement as a result of a constellation of relationships among historical, social, and political factors; whereas, kinopolitics situates movement, itself, as what puts the constellation of these relationships in place.

Both the mobilities paradigm and the framework of kinopolitics understand that places and or societies are constituted by and constitutive of the movements and the circulation of people, things, ideas, resources, and (re)productions, and so each place and the mobilities that they constitute and the mobilities that constitute them are situational. However, mobilities at border spaces are unique in that biopolitics is an explicit factor in the governmobilities. Relations that occur in border spaces are transnational, multi-cultural, and multi-racial, yet these relations are expected to follow a racial and or colonial order (Lim, 2017). For example, in the 1840s, Chinese migrants could travel across borders to work jobs that others didn’t want such as constructing the railroads in California or harvesting sugar canes in Cuba. Although their labor contributed to the construction and economy of the U.S., because they were neither “black” or “white,” Chinese migrants were the first group to be called aliens (Young, 2014). Nonetheless, in this study, I use the framework of kinopolitics in conjunction with the mobilities paradigm to best highlight the situatedness of bodies at the border in the context of hybrid space. Though kinopolitics provides a more nuanced understanding of mobilities at border spaces, it alone, at

this point, has no developed approach to situations involving hybrid space, although it has considered the issue of data. Nail (2016) uses the examples of the fence, wall, cell, the security checkpoint, and the information checkpoint to discuss how each has historically emerged, with the latter two checkpoints being the most current manifestation of the border. Nail outlines the transformation of bordering technologies, although Nail explicitly explains that these transformations are not linear (p. 44). For instance, the fence, wall, and cell are still integrated into the most current manifestations of the border. However, Nail (2016) maintains, “Future work remains to explore all of their diverse admixtures and hybrid technologies” (p. 44).

Kinopolitics as Method

Although there are many issues to explore within the framework of kinopolitics, this chapter focuses on the issue of circulation as controlled reproduction of mobilities and, thus, conduct. Circulation is the regulation of flows into an ordered network of junctions (Nail, 2015, p. 29). Circulation has to keep changing at a relatively stable rate to maintain stability of flows.

Circulation as a material-discursive formation of governmobilities

In *Theory of the Border*, Nail (2016) identifies kinopolitics as “the theory and analysis of social motion: the politics of movement. Instead of analyzing societies as primarily static, spatial, or temporal, kinopolitics or social kinetics understand them primarily as regimes of motion...” (p. 24). In this sense it is possible to identify social formations as the products of the bordering process (p. 15). While Mezzadra and Neilson attempt to explain why phenomenon at border spaces are happening in a broad sense, Nail explains how border spaces are emerging.

He elaborates on three core concepts: flows, junctions (folds), and fields of circulation. Flows are the conceptual basis of any kinopolitical system, and they are defined as a process of things moving. Built into flows are chances, uncertainty, and events. They are always on their way to something else. Take for example water. Water particles flow through the atmosphere, dispersed in the air, collected as condensation, released as rain, finding its way through the ground or collecting itself into a puddle or a stream or an ocean. Water is never completely included or excluded, it is always in flow as a hybrid of inclusion-exclusion or of mobility-immobility. Water appears to be ever present, but this is because it is always moving to maintain its presence. Like mobility itself, water's speeds of movement change and its shape or how it is articulated is conditioned by a series of factors and logics. For water it's mostly weather related, and for mobility it's mobility regimes. All reality is composed of continuous flows that are neither completely mobile or immobile (Nail, 2019, p. 191). Next, junctions (or the fold)¹² redirect a flow back onto itself. A junction maintains a process of folding a flow back into itself to create a pattern of movement. This might be similar to a riverbed: it maintains the process of folding flows back into itself to give the pattern of movement, when in fact, each water particle is probably a new one. What is recognizable is the river itself as a constant. The junction allows for things to pass through it and allows for things to be connected to it. To this effect, I believe junctions are comparable to governmobilities. The junction folds and unfolds or connects and

¹² Originally, Nail referred to this concept as the "junction" (see *Figure of the Migrant* and *Theory of the Border*); however, in a recent book chapter, Nail has revised this term as the "fold" (see "Kinopolitics: Borders in Motion" in *Posthuman Ecologies: Complexity and Process after Deleuze*). At least to my current knowledge, Nail has not offered a rationale for the change in terminology, which explains why I've maintained referring to both terms to describe the idea.

disconnects mobilities (flows) and it directs the mobile conduct of flows. In my understanding, junctions afford non-human actors the material and discursive knowledge and practices that direct its mobile conduct. On a higher scale of operation, circulation turns some junctions away and merges other junctions: this is how the movement of reproduction and redirection of movement are controlled. Thus, mobility regimes are most traceable and controllable at the level of circulation, at the level of conduct. This will be a discussion that is further developed in the following chapter, but this is an issue that is directly related to borders because it concerns how different kinds of migrants are socially divided and organized into various parts of societies.

The border as a (potential) method

Mezzadra and Neilson (2013) examine how the proliferation of the border has impacted migration, capitalist markets, violence at border spaces, and civic life. They use the border as a method to understand the changes and reconfigurations that come along with the proliferation of borders. Their rationale is that borders performs world-configuring functions, but they are subject to shifting and unpredictable patterns of mobility that also reshape them (p. 6). Mezzadra & Neilson (2013) write, “Rather than organizing a stable map of the world, the process of proliferation and transformation of borders... manage the creative destruction and constant recombining of spaces...” (p. 6). By this measure, Mezzadra and Neilson’s premise is that borders can be an epistemic tool to understanding how spaces are created, combined, and recombined. This is a valuable contribution. But, they, nonetheless, posit that mobility is unpredictable, which would not be technically correct from a kinopolitical perspective.

A kinopolitical perspective would advocate that mobility is at least traceable through its manifestations of societies, flows, and sense of duration among things (Nail, 2015). Nail does not

treat mobility as unpredictable. Instead, mobility is the only constant. Nail (2018) explains that before there is being, there is motion. As such, the border is not proliferating because it has always been in motion. Additionally, from the literature previous discussed, the patterns (or conduct) of mobility follows a material-discursive formation that is conditioned by governmobilities and, in the case of forced migrants, biopolitics. To this end, mobilities are not unpredictable, but rather they are materializations of relations among social, technical, and mobile infrastructures.

Like Nail's (2016) approach, Mezzadra and Neilson (2013) employ a range of new concepts such as multiplication of labor, differential inclusion, temporal borders, the sovereign machine of governmentality, and border struggles. However, unlike Nail's central concepts of social flows, junction (or folds), circulation, and expansion by expulsion, Mezzadra and Neilson's terms are not focused on understanding a process. Instead, their terms are focused on understanding a series of abstract phenomenon that emerge as the authors believe it relates to borders such as struggle and violence. Although they claim mobilities is integral in the shifting and proliferation of borders, their approach identifies capitalism and broader ideas such as inclusion and exclusion as an ultimate end result of bordering. In doing so, they were not able to identify what might be the social, technical, and mobile relations that enable the mobilities that shift, grow, and or are constitutive or constituted by the border.

Whereas, Nail's concepts are able to describe these relations by focusing on the multi-scalar process of movement itself through and at the border. By focusing on mobility, which is understood to be a material-discursive formation of governmobilities such as the border, Nail's concepts make the relations that shift, grow, and are constitutive or constituted by the border traceable. Nail (2019) writes, "Since all matter is in motion[,] the study of kinetic systems or

structures allows us to look at both [humans and nonhumans] at once” (p. 188). Circulation is not understood well by using the concepts of exclusion and inclusion because each time “circulation creates a fold or pleat, both a new inclusion and a new exclusion are created” (p. 194). Through circulation, some folds perform in concert and become larger by connecting flows while other folds become smaller through disconnection. Altogether, Nails believes circulation is more complex than movement in general because it is the controlled reproduction and redirection of mobility.

Lastly, Mezzadra and Neilson’s (2013) analysis does not consider the role of communication and or mobile technologies when considering the border’s new and ambient reaches and how it creates new forms of emergent subjectivity and networked environments to attune to. Moreover, scholars have identified communication and mobile technologies as playing major roles in the new configurations of bordering technologies and practices (Leurs & Smets, 2018; Vukov & Sheller, 2013). Thus, Mezzadra and Neilson’s approach does not align with the kinopolitical premise that borders are kinetic structures that process the circulation and (re)production of things within mobility regimes. Through Mezzadra and Neilson’s approach, it is not possible to understand how borders (in hybrid space) are enacted, extended, and multiplied through communication and mobile media (digital media) use and how this shapes the distribution of forced migrants’ agency. However, it is possible to understand this through kinopolitics as a method and the use of examples. In this case, the relationship between the kinopolitical framework and the critical mobilities field, for example, the New Mobilities Paradigm, is one that narrows the focus on things that are processual—that is, things that are mobile and immobile. Such an approach demands that seemingly immobile infrastructures such as walls, gates, cells, are integral in the process of making mobilities and immobilities.

Bordering technologies and the formations of hybrid mobile capabilities

In the following discussion, I use kinopolitics as a method to analyze migration experiences against the backdrop of mobile networked bordering practices that occur now in hybrid space. I concentrate on two examples of contradictory bordering practices and the mobile media involved: Eurodac and preferred migrants. These examples represent the array of the border's kinopower. Instead of discussing each example in isolation, I discuss them alongside specific themes as a comparative analysis to understand something general by folding together the specifics of each example. I focus on the circulation of bordering technologies and practices. Due to its similarity to power, circulation is referred to as kinopower. In this respect, I join the discussion from the previous chapter about power and its modes of subjectification and subjectivation with this current discussion, which can help to explain how the border is extended and distributed among hybrid space as a part of the border's emergent condition involving networked communications and mobile media.

Networked communications as the yoke of the border's kinopower

Circulation in the kinopolitical framework is slightly different than what many of us have previously encountered. Circulation is not a different thing altogether; rather, circulation is comprised of junctions and flows. Circulation is constituted by and constitutive of sociotechnical, material, and discursive practices. In this manner, circulation, or kinopower, is the sum of all past, current, and future mobilities. Circulation is the materialization of mobility regimes. Circulation are movements that materialize into routes, places, and practices. In the case of cross-border migrations and in the context of hybrid space, circulations are reconfigured

through mobile technologies and networked communications and information. Mobile technologies are junctions that function as a yoke. This is particularly important because we already understand from the previous chapter that mobile technologies play an integral role in engendering hybrid space (also see, de Souza e Silva, 2006) and in distributing a migrant's agential capability, but mobile technologies and networked communications and information play an even more critical role in augmenting flows and thus circulation altogether (Nail, 2015, p. 28).

Although flows are continually changing and moving, the driver (in this case, the various bordering technologies) appears to remain the same or in the same place. The driver absorbs the mobility of the yoked flow while remaining relatively immobile.¹³ Yet, *the driver moves through the movement of others*. Even without moving, per se, the border moves through this yoking mechanism that extends its mobility and presence. For example, bordering technologies are similar to the riverbed previously described in this chapter. Bordering technologies found at the U.S.-Mexico border such as border walls, gates, heat or motion sensors, satellite imaging, radar, or even drone surveillance becomes like a "riverbed." The riverbed serves as the infrastructure for things to move through. Migrants (in all), vehicles, goods being transported, and so on experience either stoppage or mobility at border points of inspection. The technologies used to control mobilities are constantly changing from the use of passports to identify migrants' points of origin and destinations to gamma rays that look into the content of container boxes. Although

¹³ For example, in Peter Adey's (2006) "If mobility is everything then it is nothing," he argues something similar using the example of the airport.

these processes of checking, inspecting, and documenting are not identified as “borders,” these processes are recognizable as a process of the border. As walls are built or tunneled under and data is gathered and transmitted that determine and permit the passage or stoppage of migrants, vehicles, and goods being transported, the border moves through the riverbed that is made up of the riverbed of bordering technologies.

Networking bordering technologies and practices through mobile media

Abroad, European states are engaged in similar networked bordering practices. The European Asylum Dactyloscopy Database (Eurodac) is the first multinational biometric system commissioned by the European Union (European Commission, 2019). It contains only fingerprints and place of registration of persons 14 years or older with no other personal information. When a person applies for asylum anywhere in the European Union, their fingerprints are stored into the Eurodac central system. It is intended to “facilitate the judicious and transparent receipt and processing of asylum applications” (European Commission, 2019). It is currently used by 28 European Member states and countries such as Iceland, Liechtenstein, Norway, and Switzerland. Networking this biometric data on migrants entering the European Union was intended to help member states organize responsibility to migrants. However, as a method of circulation, Eurodac and its similar approaches have extended and distributed the kinopower of bordering technologies and practices.

The Preamble to the Covenant of the League of Nations, the predecessor of the United Nations, promoted international cooperation for refugees (forced migrants). Later on, the Refugee Convention included a recommendation that governments continue to receive refugees in their territories and that they continue to “act in concert in a true spirit of international

cooperation in order that these refugees may find asylum and the possibility of resettlement” (Gil-Bazo, 2015; Goodwin-Gill, 2003). In my understanding, Eurodac, in its conception was a way to hold member states accountable for the forced migrants who enter their countries, as the first country in which a migrant enters would be responsible for assessing and processing their asylum claims. It was also a way to track the movements of migrants, as well as to track state responsibilities. For example, if entered into the system, a migrant who first arrives in France who then travels to Germany, when assessed in Germany, information about their first claims in France would be retrievable.

Authorities categorized fingerprints and their locations of being fingerprinted in three ways: 1) applicants for international protection, 2) third country nationals¹⁴ or stateless person crossing the external border irregularly, and 3) third country nationals or stateless person found illegally staying in a member state. The data in the first category is stored indefinitely; the data in the second category is stored for 18 months; and the data in category 3 are used for comparison to see if the person ever been associated with the first or second category (Lyneham, 2017). However, currently, there are proposed reforms to the operation of Eurodac. Among them, it's been proposed to lower the age of fingerprinting from 14 to 6 years old, increasing the storage of category 2 data from 18 months to anywhere between 2-5 years, and allowing public prosecutors and Europol to have access to stored data (Lyneham, 2017). This means, if a young person is characterized under category 2 in “X” country, their chances for asylum are stalled exponentially

¹⁴ The term third country here refers to a refugee or asylum-seeker who has irregularly migrated across state frontiers in search of asylum or permanent residence other than the first state in which they arrived (also see Gil-Bazo, 2015).

because of their age of finger printing and the duration of the data stored. This is problematic not only because different countries make different decisions on asylum claims, but such reforms would demand that younger persons are regulated by these mobility regimes from a younger age for a longer duration of time. In this situation, the border and its kinopower extends not only through more spaces but also more time—gravely conditioning young migrants’ mobile capabilities, mobile futures, and agency altogether.

In addition to Eurodac, the European Border Surveillance System (Eurosir) follows a similar strategy of using networked information. In doing so, networking information embeds ambient power relations into the environment. For instance, Eurosir serves as an information exchange system for European Union Member States and the third party corporation Frontex. Its main purpose was to increase awareness of the situation at sea, especially paying attention to smaller vessels that would often enter the European Union’s territorial waters undetected (Martin, 2014). Eurosir was intended to detect and prevent “irregular migration.” Part of their rhetoric is that they intend to prevent cross-border crimes as well as protect and save migrant lives (European Commission, 2018). However, critics have voiced that Eurosir’s goal is not to save migrant lives, but rather, to be a system for border management and a method of avoiding human rights responsibilities (Bilgic, 2017; Rijpma & Vermeulen, 2015). Nonetheless, Eurosir encourages information sharing and gathers its data through the use of drones and satellite imaging to monitor its land and maritime borders as well as its neighbors’ (Latonero & Kift, 2018). Critics have noted doing so allows “European Union authorities to strategically prevent contested refugees from becoming legible to the state, thus avoiding potential conditions of accountability” (Latonero & Kift, 2018, p. 6). Not only are forced migrants not legible to the state—which is an unethical maneuver around the state’s responsibilities to forced migrants—but

the mobile capability within this environment is almost impossible because of the border's ambient power.

Meanwhile, the third party corporation to Eurosur, Frontex, focuses on social media monitoring as another measure of preventing irregular migration (Latonero & Kift, 2018). Because the courts have reiterated that migrants intercepted *in* the European Union's territorial waters cannot be sent back and that those migrants have the right to apply for asylum within the intercepting vessel's jurisdiction, Frontex has been at the forefront of using networked information and communication to detecting and intercepting migrants at the high seas or in non-member state territories (Martin, 2014). Through a combination of detection technologies such as sensors or satellite imaging, for example, borders can extend past the "territory" into territorial waters. Such extended borders "check" for undesirable migration and stop the migrations before it nears the borders territory. This arrangement has persuaded forced migrants to use more dangerous and smaller rubber dinghies (sometimes with a small motor) to make the territorial water crossing instead of larger vessels that would be easily detected (Frontex, 2019). In this scenario, bordering technologies help to create an extra territory that is composed of both land and water to further distribute ambient power relations. Doing so subjects forced migrants into fewer, or at least more dangerous, mobility choices because the space in which their mobilities are controlled and regulated has increased. As territorial waters are appropriated for border surveillance work, migration through waterways becomes less lucrative as a viable mobility choice.

In other reports, non-official approaches to using networked communications and information are occurring at the border beyond the authorized use of the Eurodac system. This approach follows the logic of using a database of information about biological characteristics of

a person, biometrics (Amoore, 2006), but differs in that it relies on user-generated information. Nonetheless, officials use biometrics and this approach to do what scholars are calling “biometric bordering” (Amoore, 2006; Madianou, 2019). This strategy of relying on a network of information to identify and categorize kinds of migrants is happening throughout the world. Abroad, police have used the mobile phone and social media accounts of undocumented migrants as “border documents” in lieu of documentation (Henley, 2016). This has resulted in the detention of young migrants and the confiscation of their devices for an extended amount of time, up to three months (Henley, 2016). In the U.S., upon entry or departure, federal agents can search anyone’s phone or other mobile devices regardless of citizenship status (Harrington & Mark, 2019). This happened to Ismail Ajjawi, an incoming Harvard freshman. He was “deemed inadmissible to the United States based on information discovered during the Customs and Border Protection inspection” due to “anti-American posts his friends had made on social media” (Harrington & Mark, 2019). At the airport border check point, Ajjawi’s visa was cancelled and he denied entry upon the search of his mobile phone and social media. Altogether, this is another example of how information systems and hybrid space commons such as social media platforms are being co-opted by mobility regimes. This is kinopolitical because it enables and disables certain kinds of mobility—in this case, it disables the mobilities of individual’s who may have voiced political opinions that dismayed those in power. In doing so, this is also kinopolitical because it creates and controls both a population and the mobilities of a population.

Eurodac and similar strategies are examples of the border’s kinopower through the means of yoking, the border moves through the use of mobile media and networked communications and information. Where the border has a presence, it governs the mobility and mobile conduct of those biopolitically targeted as an unauthorized mobile subject. Unauthorized forced migrants

can move no further within the border space, and this is quite problematic because among forced migrants and among governmobility systems, there is almost always the presence of digital media that enables the hybrid space for the border's circulation of kinopower. As networked information is distributed through the border's circulation, the mobile capability and agential capability of forced migrants are re-distributed by the flows of kinopower in hybrid space.

Bordering practices as control of migrant population's mobile capabilities

Thus far, I've discussed bordering practices alongside the experience of forced migrants. However, for those who don't belong to the precariously displaced migrant population, their experience within the reaches of the border's kinopower is different. Take for example, the affluent migrants and their relative the tourist migrants. The border's kinopower circulates differently to enable a different kind of mobile conduct, one that facilitates increased mobility and savings of time.

First, there is an app. The Customs and Border Patrol Reporting Offsite Arrival Mobile app (CBP ROAM) is a free mobile application that provides an option for pleasure boaters to report their U.S. entry to CBP through mobile devices (Department of Homeland Security, 2018). The CBP ROAM also qualifies as an Alternative Inspection System that satisfies the legal requirement to report for face-to-face-inspection, and this app can be used to apply to become a "Verified Traveler." To use the CBP ROAM app, travelers submit their biographic, conveyance (mode of transportation), and trip details to the CBP for review. The traveler may be asked to conduct a video interview with a CBP officer but will need a mobile device that can share its GPS coordinates. Upon approval, the traveler will get a push notification through the app accepting or denying their request for entry. Guests or travelers who have plans to arrive at the

U.S.'s sea borders are advised and welcomed to use this mobile app. It is the law to report your arrival.

Many of its users are coming from the Bahamas into Florida (WPTV News, 2018). From the limited reports, a range of users are seen on small fishing vessels or boats to yachts. Although these are not “millionaire migrants,” they usually belong to a class of people who own leisure boats who are most likely tourist migrants. In a West Palm Beach news report, users were quoted saying, “We put our passport information in, put the information in about the vessel, and then do a quick online interview with them through your phone, and then we’re off to lunch” (WPTV News, 2018). Another user was quoted saying, “It’s fantastic. It’s a great idea.” These comments gesture towards the mobile app’s ability streamline their mobility in between state waters and frontiers. This procedure saves users tremendous time and cuts out the need for users to dock their vessels, take a cab to the CBP office, and come back to their vessel or dockside lines or conforming to marina hours. A user said, “It was a bit of a nuisance in doing it for a two-minute process.” In this process, there’s no real search or seizure. No officials will search the vessel for undocumented persons as it is trusted that each person on the vessel is already documented and has registered themselves through the mobile app. The CBP ROAM app has expanded its use to Michigan and Minnesota (Galford, 2019). It has also included snowmobilers and outdoor enthusiasts such as ice fishers into its user-audience. Prior to the app, users had to report in person and endure changing winter weather conditions at limited locations. So, the app does address a pressing issue for frozen border waters and larger international waters that depend heavily on tourism, but more so, the app circulates the border to these particular tourist migrants and authorizes their mobility and mobile capabilities from a far.

Moreover, this mobile app is similar to the Mobile Passport Control (MPC) that was intended to streamline United States' and Canadian citizen travelers' arrivals into the United States (Department of Homeland Security, 2019). Users create a profile, generate a "New Trip" information that includes the arriving airport name, airline name, selfie, and answer a set of questions. A quick response code (QR) is generated. Upon arrival the mobile app user scans the QR code along with their passport to streamline their passage through the border. As such, this is a method of controlling the mobile capability of a populations. For desirable migrants such as travelers, hybrid space extends the border in a welcoming manner. Before even arriving at the "actual" border, desirable migrants have already passed through them in hybrid space.

Another desirable migrant, the "millionaire migrant" experiences a similar ease of authorized mobility capability, except their authority goes beyond the mobile and technical infrastructure of a border patrol's mobile app. Their capabilities are supported by legal and social systems that support their mobilities. However, the set of governmobilities that direct their mobile conduct still come with its limitations, even if it does seem like the ultra-rich have been granted unlimited mobility. A closer look demonstrates that the border's kinopower extends to legal systems, even the ultra-rich need to be authorized to move through another country.

A New York-based attorney for wealthy clients said, "The wealthy today don't have a country... They don't view their success as being related or depending on a single country, but their own business strategies" and "many of the very wealthy of going totally mobile" (Frank, 2017). Interestingly, this enthusiastic attorney did not mention that apart from savvy business strategies, it doesn't hurt that in the U.S., the EB-5 program, an investor visa program, welcomes affluent migrants at the price of a \$900,000 (previously \$500,00) investment (Frank, 2017; USCIS, 2019a). Other countries have similar migration management strategies. For instance,

Australia has a significant investor visa (golden-ticket) that fast tracks residency requirements for \$5 million Australian dollars investment or a \$1 million dollar option without the fast-track to permanent residency (Doherty, 2018). Meanwhile, different states have different approaches. The United Kingdom institutes salary rules for migrants and have tiers that migrants can fall into, including an option to invest in exchange for visa permissions (Lindsay, 2019). Furthermore, the rhetoric that ultra-rich migrants can pay their way into a country masks the reality that their welcome is not authorized without their lump sum of money.

This is to say the issue of border patrol is not about capitalism, although notable scholars have conceived it as such (Balibar, 2002; Mezzadra & Neilson, 2013). Borders' kinopower are invested in gaining control of another person's mobility and potential for mobility. For example, citizenship requires the taming of mobility (Kotef, 2015, p. 11). Movement generates different forms of subject-positions and identify categories, so movement is also used to organize and justify schemes of governance such as that of being a citizen or a migrant. Here, the border is used as a technology to both read the identity (desirable, undesirable, safe, unsafe...) of the person and to produce their identity into an identity that meets schematics of governance. For example, the three categories that Eurodac imposes on forced migrants serves to justify the scheme of governance, which constitutes and is constitutive of the existing governmobilities.

The sample of these migration opportunity laws are no different than the sample of refugee and asylum laws. The obvious difference is in the income disparity. With ultra-rich migrants, migration and access through states can be exchanged through monetary investments; and likewise, migration and access can also be exchanged by forced migrants through the exchange of their story. A forced migrant's narrative bound within their claim for asylum must be "credible," and their fear of return "well-founded." Upon providing proof about their access to

funds or lack of access to basic human rights, migrants are divided and mobilities are determined. In the end, it is still very biopolitical: migrants are flows that are socially divided and folded at the junction points of the border. The difference between millionaire migrants and forced migrants are where they get folded into in societies. Nonetheless, migrants must follow the rules of mobile conduct. When a millionaire migrants' visa runs out, if they elect not to take up residency, they are directed to leave per the legalities absorbed into existing governmobilities.

Conclusion

To summarize my discussion points, I have described how the border circulates through mobile technologies and networked communications and information. Next, I have described how networked communications and information systems such as Eurodac and its partnerships have reconfigured the spatiotemporalities of forced migrants. Following this, I described how mobile applications allow bordering practices to occur offsite, or with the migrant instead of with the supposed territorial zone. Lastly, I described how laws are implicated into the logics of bordering practices and technologies. However, I conclude that it's not the laws themselves that govern migrant mobilities; rather, it's that the laws and governmobilities simultaneously legitimate each other in order to exact control over migrant populations. Kinopower, or the circulation of the border, is distributed in hybrid space, and it processes the disciplining of migrant subjectivities especially in terms of their mobile capabilities and sense of agency. (Mobile) agency is compromised when (mobile) conduct is ultimately controlled.

Thus far, it can be understood that within the context of hybrid space, bordering technologies and practices have engaged the use of mobile and digital media and networked communications and information systems. The result is a border that is mobile, networked,

emergent, and as much of an agent as a human user in hybrid space. With mobile media as the junction of mobilities, the border can still move through mobile media while remaining relatively still. Thus, the border's ambient power relations are extended through mobile media. Just as a mobile media user can enfold space, borders are just as capable as well. This mean, the space of the border's reach and the extension of its governmobilities and biopolitics, including borders' ability to create (im)mobile subjects, is distributed through hybrid space. Therefore, the hybrid mobile capabilities of forced migrants—or unwanted, illegal, or irregular migrants—are conditioned through the ambient power of bordering technologies that circulates in hybrid space. This circulation is constituted by and constitutive of the material and discursive relations that forced migrants are embedded within, and so circulation through a kinopolitical framework is helpful in understanding how forced migrants' subjectivities and their mobile capabilities are produced in a hybrid border space.

Accordingly, governments are increasingly taking advantage of the affordances of digital infrastructures while policy decisions are also increasingly depending on the accuracy of big data and advanced analytics in their bordering practices. The constant collection of data grows the database into extended border spaces, connecting them through information sharing. For forced migrants, the border is tangled in space and time and social, technical, and mobile infrastructures. For a 6-year old migrant not deemed to be in the asylum-seeking category in any European Union Member State, if Eurodac were to adopt its proposed policy changes, their border space of exile extends for an additional 2-5 years due to the data collected on them. The 6-year old would remain fingerprinted and confined in the database for an additional 2-5 years, which will not allow them to seek asylum elsewhere. This border is distributed through hybrid space and is conditioning this young migrant's time as well. Within the United States, to date,

such a biometric system does not exist for children. Instead, they are simply physically detained, and perhaps additionally separated from their guardians, until their hearing dates, in which there have yet to be any protocols established. Nonetheless, mobile and networked bordering technologies and practices engage in kinopolitics and shrink the space of the mobile commons and produce persons into populations for the sake of regulating mobile conduct and justifying the logics of operating governmobilities. In sum, borders are mobile, networked, hybrid control of population and mobile conduct. In the following chapter, I will focus more closely on the role of mobile media and how circulation or kinopower is managed through them in hybrid space.

Chapter 3: Forced Migrants and Hybrid Mobilities

At the onset of digital technologies and mobile communications, virtual mobilities by proxy of digital connectivity were proven to be a great way to “get around” without having to physically get around. Virtual mobility is conceived of as “the substitution of electronic transfers and exchanges for physical transport activities” (Janelle, 2004). It is a way to navigate through information and does not necessary require corresponding physical mobilities (Kellerman, 2006). Through applications such as Skype or Zoom and other voice or video over internet protocols (VoIP), people are able to meet with each other digitally “face-to-face.” Instead of traveling to and from one location to another, people can join together in virtual chat rooms and meet together in this manner without having to leave their physical locations. But virtual mobility is only possible because of existing digital infrastructures. Nonetheless, virtual mobilities are contained in the screen space that represents them. Facial expressions, vocal intonations, and bodily gestures (at least from the shoulders up) can be communicated within the device and the space that represents them. In this respect, *virtual mobility is ultimately bordered within the device*. Because virtual mobility is information- and representation-based, for “personal mobilities” or needs such as making it to meetings or connecting with others, it is an efficient and effective way of moving from one informational space to another (Kellerman, 2006). However, virtual mobilities is a concept that emerged before the concept of hybrid space (de Souza e Silva, 2006). Within hybrid space, it is possible to engage in physical mobilities that are coordinated with or not coordinated with what is occurring within the device. In fact, hybrid space blurs the borders between virtual and the physical spaces.

Virtual mobilities, according to Kellerman (2006), is good for some of our everyday tasks such as keeping in touch with friends, families, and co-workers or for performing tasks such as

mobile banking where physical mobilities are not necessarily required. In the field of digital migrations, theorists have explored studies in digital connectivity to consider how migrants in general use digital media to engage in online sociability. As mentioned in Chapter 1, such migrant virtual communities have been described as digital diasporas (Alinejad et al., 2019; Brinkerhoff, 2009; Gillespie, 2009), e-diasporas (Diminescu, 2008) or connected migrants (Diminescu, 2008; Leurs & Ponzanesi, 2018; Pellegrino, 2013). From this, it is clear that that migrants engage in virtual mobilities to maintain social networks and social capital (Keles, 2016; Elliott & Urry, 2015; Hiller & Franz, 2004). From this, it is clear that that migrants engage in virtual mobilities to maintain social networks and social capital (Keles, 2016; Elliott & Urry, 2015; Hiller & Franz, 2004). But what happens when virtual mobilities are not enough to foster a sense of co-presence? Virtual mobilities do not have the same qualities as physical mobilities because they only refer to the mobilities within digital space. For this reason, virtual mobilities cannot compensate for the lack of physical mobilities since they are *not* integrated with movement through hybrid spaces.

At the intersection of forced migration and hybrid space, both virtual and physical mobilities matter because forced migrants need to move their bodies into places and out of places, and most importantly, their bodies are sites of struggle that are also embedded in environments. Forced migration entails being forcibly displaced or emplaced (internally displaced) (Ahmed et al., 2003; Leurs & Smets, 2018), and hybrid space entails a space that is enacted through mobility, mobile media, and co-present users (de Souza e Silva, 2006). Yet, at the same time, because of the networked characteristic of communications, forced migrants also need virtual mobilities to engage in co-presence and to navigate *information landscapes*. However, the potential for mediated mobilities (and hybrid mobilities, a concept that I am

proposing and will later develop further) hinges on the sociotechnical assemblages that make hybrid space possible such as kinopolitical infrastructures, mobile technologies, and how information is communicated and represented. Therefore, kinopolitics—i.e., the inherent politics configured into the construction of our social, technical, and mobility systems and infrastructures (Nail, 2016, 2019)—not only shapes physical mobilities, but also shapes virtual and mediated mobilities. For example, connectivity hinges on unpredictable *local* access to digital media infrastructures (Alencar et al., 2018). Thus, forced migrants experience variances in both physical mobilities and access to communication infrastructures in different locations on different kinopolitical scales.

I propose the concept of *hybrid mobilities* to refer to mobility practices wherein a constellation of movements occur between informational landscapes and physical geographies that are embedded with kinopolitics. Although hybrid mobilities requires hybrid space to serve as a nexus for informational landscapes and physical geographies, hybrid mobilities recognizes that sometimes people such as forced migrants actively engaging on migration routes may not have access to the minimum infrastructure (such as device capability, internet accessibility, or electricity) to enact hybrid space. Thus, hybrid mobilities are unique in that they are not limited to the synchronous coordination of physical and virtual mobilities such as that of mediated mobilities. This concept responds to the need to describe the gaps in access to hybrid space that forced migrants experience as they migrate through environments with different sociotechnical assemblage configurations.

In this chapter, I focus on understanding three kinopolitical scales that condition the hybrid mobile capabilities of forced migrants: signal territories, infrascapes, and net localities. The rationale behind stringing together these conceptual variances is that hybrid mobile

capabilities are conditioned by a forced migrant's environment, which includes both the affordances of physical and informational landscapes. In this case, informational landscapes refer to how information about places and locations are represented, particularly as they appear on the screens of devices. Together, these variances address on one hand, the availability of physical networked communication infrastructures such as routers, radio bands, cellular towers, or satellites that facilitate the flow of signals through and across territories that enable mobile internet; and on the other hand, the available software and mobile technologies designs that shape the experience of mediated spaces and mediated mobilities. By applying these three concepts to my following examples, I analyze hybrid mobilities as they are governed by kinopolitics because both are entangled in material infrastructures that vary from one location to another.

First, I offer a background discussion about the tale of 2G (second generation cellular networks) to demonstrate how the infrastructures for digital connectivity and the uses of digital media have been unevenly used in areas of the world where forced migrants are located. Next, I discuss examples of radio bands at the U.S. Mexico border to elaborate on the concept of *signal territories*, which are network infrastructures that are dispersed across a territory based on the logics of nation-states and commercial demands such as cellular towers, satellites, or even local access routers that allow for the mobility of communication signals (Parks, 2013). Through this, I demonstrate that signal territories develop a physical border that limits physical mobilities in order for them to have access to cellular signal or WiFi. Following this, I discuss *infrascales*, a term that refers to how software is recoding and rescaling territories to bring attention to how technologies are used to represent spaces. This occurs when physical locations are represented according to the logics of software programmers and designers to emphasize desired routes for

desired kinds of mobilities. Tourist maps are a “low-tech” example of this: they make tourist spots and the routes to those spots more visible. Applications that employ maps also engage this concept in games such as *Pokémon Go*. But more specifically, infrascapes are engaged in visualization software that re-scale and represent landscapes such as *dbox* used by Dellis Cay Advertising (Sheller, 2009).¹⁵ With this, I demonstrate that kinopolitics are configured into the representations of physical landscapes. This matters because these physical landscapes become information landscapes that people use to plan, imagine, and execute actions. Lastly, I discuss the concept of *net locality*, as the ability to locate yourself on a network through mobile technologies (Gordon & de Souza e Silva, 2011). Here, I circle back to the ideas of signal territories and infrascapes in order to argue that not all locations are networked and/or represented in the same manner. This means that, within in the context of hybrid space, forced migrants face differential access to mobilities in their media environments at the level of infrastructures, at the level of the software that mediates and represents spaces, and at the level of the devices that enable mediated mobilities. As such, in this chapter, I demonstrate how kinopolitics unfolds through the spatial logics of signal territories, infrascapes, and net localities, which contributes to understanding the uneven mobilities of forced migrants’ hybrid mobilities.

¹⁵ Sheller (2009) explains, “According to their website, [*dbox*] they employ 3D artists/animators and interactive designers who must have mastery of software applications such as 3-D Studio Max, Macromedia Flash/MX (Actionscript), and Photoshop/Adobe Creative Suite, as well as being able to read 2D CAD drawing. Thus, software drives not only the architectural design of the island (the practice of space), but also the representation of that space in a global infosphere...” (p. 1397).

A tale of 2G

This is a tale of 2G, but really, it's a tale about two borders. In this section, I try to include the U.S. Mexico context as an example of digital migration, in addition to the European context. In doing so, I hope to de-center Europe as the primary context for digital migrations. My position is that by de-centering Europe and questioning what is “digital,” we might be able to consider the larger sociotechnical assemblages that are involved in forced migrations that stage or make the conditions possible for mobility and communication. As detailed in Chapter 1, news coverage of migrants has been very popular, and the theme of migrants and technology has been a popular to report on. For example, in the *New York Times*, alone, there are currently over 7,500 articles on theme. These reports have shaped the public's perception of the relationship between migrants and technology in that there is a wide assumption that migrants have access to and use “high-tech” technologies such as smartphones and social media. Scholars have also explored this theme by looking at digital media, particularly smartphones, in forced migrations, calling this demographic of forced migrants “digital migrants,” and referring to this emerging field of studies as digital migration (Leurs & Smets, 2018). Although Leurs & Smets (2018) have called attention to the need to avoid singling out technology use because it perpetuates stereotypical understandings about forced migrants and they acknowledge that there are varying “digital-media-centric-ness” (p. 8), many studies—as part of the Digital Migration Studies Paradigm—thus far have focused primarily on cyberspace or cyber communities, everyday digitally mediated migrant life, and migrants as traceable digital data (p. 9). It is apparent that “digital media” has not been clearly defined, but it can be inferred that the digital media in these studies refer to digital media that is used with internet. Digital media is not limited to internet capable devices. For example, Angela Haas (1996) reminds digital media scholars that, from the Latin

tradition, “digital” refers to anything having to do with the digits—as in the fingers. In this case, indigenous textiles such as the Wampum (a traditional belt adorned with beads to keep track of trades and treaties) are digital media because they are made with the digits. They are data visualizations; they are coded and traceable through time; and, they hyperlink or network with other Wampum textiles (Cushman, 2013; Haas, 2007). The Wampum challenges the narrative that digital media is only internet related. Others have agreed that “digital” can refer to anything that can be made, remade, copied, or appropriated (Eyman, 2015). However, in the emerging field of digital migration, it seems that digital is operationalized in such a way that it excludes low-tech contexts. And, with the focus on cyberspace, it also excludes contexts in which there are “no signals.”

As a scholar concerned with mobility justice and agency, I find the field of digital migration interesting and valuable but, nonetheless, incomplete in understanding the mobile capabilities of forced migrants against the backdrop of digital media and connectivity because it focuses on forced migrants only from one side of the digital divide. By focusing on forced migrants’ access to cell phones and the internet, digital migration scholars fail to see that forced migrant mobilities is connected to a constellation of kinopolitical infrastructures and other digital mobile technologies (such as bordering technologies) that also influence migrants’ mobilities.

Regardless of whether a forced migrant has access to personal mobile phones, they must move through heavily controlled border spaces, especially those that desire passage in order to seek asylum. As discussed in the Chapter 2, along the United States and European Union border spaces, border surveillant assemblages—composed of technologies such as drones, sensors, satellite and other digital imaging, networked databases, and mobile information communication technologies—are networked and are also becoming increasingly mobile (Vukov

& Sheller, 2013). “Virtual fence” programs such as the SBI-Net (although it was cancelled after an initial costly prototype) and their likes are designed to layer border spaces with sensory-aware technologies that detect, prevent, and seize undesirable migration. But, beyond sensing the movement of human bodies, border patrol authorities can use these networked technologies to detect electronic signals. This approach to border surveillant assemblages works together to detect both bodily movements and communication signals, making mobile communication unevenly dangerous for forced migrants on the move. In this situation, migrants who are in need of being undetected are not able to use any media that can be detected. For instance, even the use of walkie-talkies can be detected because of the signals they emit (Berkowitz et al., 2019). The detection of even walkie-talkie signals can make forced migrants locatable. The European Union has similar bordering technologies to that of the United States’. Through programs such as Eurosur and extensions such as Frontex, the European Union border space is also layered with similar sensory-aware technologies that detect, prevent, and seize undesirable or “irregular” migration. As such, kinopolitics is involved in the *hybrid mobile capabilities* of forced migrants because kinopolitics are involved in the enactment of hybrid space through how forced migrants are able to use their mobile devices (if they have them). Moreover, kinopolitics are involved in the design of graphic user interfaces that largely make up infrascapes since infrascapes often incorporate physical geographies that migrants use to locate things such as internet cafes, roads, routes, and including themselves. Being able to enact hybrid space, particularly for wayfaring, in the first place depends on kinopolitical infrastructures beginning with devices and extending to signal territories, infrascapes, and net localities.

Mobile phones make migrants more vulnerable to harm

Previous studies in digital migration support the idea that mobile phones empower migrants (Kaufmann, 2016, 2018; Oakeshott et al., 2018). This perspective often affirms that mobile phones are “As important to me as water,” “Smartphones as life lines,” and “Smart refugees...,” to name a few (St. George, 2017; Alencar et al., 2018; Dekker et al., 2018).

However, at the U.S.-Mexico border, mobile phones can actually make migrants more vulnerable because, like walkie-talkies, cellular signals can be detected, making them locatable. For instance, the Department of Homeland Security has approved the use of cellular signal triangulation to locate migrants (Tau & Hackman, 2020). As such, mobile phones are kinopolitical. They are one of the drivers of flows of things and information because they enable the movement of information while remaining relatively still (Nail, 2015). However, in the specific setting of forced migrations, mobile phones are embedded in a larger media ecology—one in which mobile phones and even phone numbers can be harmful.

In order to cross the border, migrants conduct their planning in advance. En route, they use “low-tech” technologies such as black clothes, blacked out water bottles, and cheap tennis shoes. These technologies can be controlled by migrants, and they do not invite theft as easily as do “high-tech” devices such as cell phones. According to the data obtained from an interview conducted by Newell et al. (2016), “word of mouth” is the most important source of information for migrants because some do not know what kind of information they will need until they are actually en route. A migrant explains how information gathering occurs:

It’s all through friends. You ask here and there, I want to cross, and who knows someone. And then you find somebody who knows someone. And they give you a phone number and you talk with someone, and that’s the way you do it (p. 183).

To avoid potential scammers as guides, migrants call around to, in a way, “check” the guide’s references (Newell et al., 2016, p. 182). But the U.S.-Mexico context, this is all done prior to migration. This narrative challenges popular studies done on forced migrants making their way to Europe that have concluded that social media have helped them to make informed decisions about routes during their journeys (Dekker et al., 2016; Dekker et al., 2018; Dekker & Engbersen, 2014). However, it’s important to note that I am comparing migrants arriving to the United States with migrants arriving to the European Union. In the U.S.-Mexico situation, it is risky to use cell phones; whereas, in the European arrival situation, the challenges are different and so cell phone use is not as risky. But, in the U.S.-Mexico context, cell phone use might not even be possible even if it was worth the risk due to the lack of infrastructure to support internet access. This serves as groundwork for my claim that there are differences in environments, infrastructures, and access that factor into forced migrants’ capacity for mobility and communication.

Many used 2G capabilities rather than the reported smartphones

Newell et al. (2016), reported that ICTs were used in preparation for the journey, but the actual use of ICTs was limited. Most migrants used mobile phones to contact family, friends, and possible guides prior to their journey. Many of the migrants that Newell et al. encountered had “candy bar” phones that did not support anything beyond 2G capabilities, that is, basic text messaging (p. 184). Although some migrants who were interviewed described using other messaging apps such as WhatsApp or VOIPs such as Skype, Newell et al. did not interview anyone who actually used these applications during their migration. Rather, the interviewees described that they used their mobile phones prior to their migration routes as a method of

planning their route and coordinating group meetings. A possible reason for not using any devices during migration is fear of theft. Because of theft and risks of extortion by smugglers or cartel members, it could be dangerous to have a phone or even a list of phone numbers.

Interviewees in Newell et al.'s (2016) study who are traveling towards the U.S. Mexico border have described that during a robbery, the mafia have taken their shoes, their paperwork, and the phone numbers lists they carry (p. 184). At times, if a phone number was found on the body of a migrant during a robbery, the list would be confiscated and used to extort money. Migrants ended up paying the mafia to not harm the persons whose phone numbers were listed.

Additionally, Newell et al. reported that because of this some migrants either memorize the phone numbers of their contacts, or they immediately try to throw away the list (and lose the ability to get in touch with their contact) before mafia members can get a hand on it.

In a study abroad, Hayes (2019) reported that the majority of phones carried by interviewees in the Kurdistan region of Iraq were not smartphones—they were 2G devices. This is further supported by Gillespie et al. (2016) in that “not all refugees own a smartphone, and in many cases, refugees may collectively own and use a single low-tech mobile phone” (p. 34). Hayes’ description of cell phone use is similar to that of Newell et al.’s (2016) in that Hayes’ interviewees also used low-tech cell phones. However, these studies differ in that Newell et al.’s interviewees did not use their cellphones during their migration; whereas, Hayes’ interviewees did. Hayes’ (2019) interviewees, however, used cell phones mainly to access resources, such as calling family members and coordinating through voice communication.

Different environments call for different devices and uses, which is the point of including studies on 2G cellphones. The digital migration studies that focus on the use of 2G mobile phones, low-tech use, or no use of mobile phones (Hayes, 2019; Newell et al., 2016) do not

necessarily contradict the studies that find that migrants use cell phones. In fact, these new accounts complement the above-mentioned studies by widening the scope of research to explore the larger systems in place that enable forced migrant mobilities. Many studies have described the affordances of cell phones use on forced migrants (Alencar et al., 2018; Dekker & Engbersen, 2014; Gillespie et al., 2016; Kutscher & Kreß, 2018; Ponzanesi & Leurs, 2014; Smets, 2018). Among these European studies, some have noted that there isn't always the infrastructure for digital media use or connectivity on migrant journeys, particularly in areas outside of Europe. For example, connectivity hinges on sometimes fragile and unpredictable *local* access to internet through WiFi, pre-paid SIM cards, and sources of electricity for recharging mobile devices (Alencar et al., 2018). There is an assumption that forced migrants are equipped with the necessary knowledge and media literacies to operate digital media and its applications (Hayes, 2019; Mattelart, 2019). However, mobile phone use by forced migrants are constrained by problems related to limited connectivity, the issues of surveillance or visibility, and misinformation (Dekker et al., 2018; Gillespie et al., 2016). Moreover, others have suggested that we examine the affordances of the mobile phone for forced migrants through the lens of the technological and social constraints associated with the forced migrations' contexts (Gillespie et al., 2018), which is a productive move. But, even so, there is still a need to consider the various larger contexts in which mobile phones are situated to understand how these contexts condition hybrid mobilities. For example, different countries not only have different laws and policies concerning immigration, but different countries also have differential access to the minimum infrastructure for internet connectivity. Such was the case with Syria-Tel in Syria, which weakened his cellular signals, but on the other side of the border, in Turkey, there was a stronger signal due to better infrastructure. Hence, I examine the concepts of signal territories,

infrascapes, and net localities as frameworks to understand how mobile phone use by forced migrants are constrained by kinopolitical infrastructures that compose the environments through which forced migrants move and communicate. However, before doing so, I offer a survey of studies that have helped me to understand the different environments in which forced migrants engage in mobilities and communication.

Understanding the environments through which forced migrants move

Investigating the dynamic between digital media—but more precisely cell phone use—and forced migration is currently a popular research trend.¹⁶ However, scholars have mainly focused on the smartphone and forced migrant mobility (Dekker et al., 2016; Dekker et al., 2018; Dekker & Engbersen, 2014; Gillespie et al., 2016, 2018).¹⁷ Kaufmann (2018) explains that many refugees, particularly the recent Syrian refugees moving towards Europe, would have not have made it to Central and Western Europe without engaging in various forms of digital networks through their mobile devices. Syrian refugees' routes depended on physical barriers and access to

¹⁶ Recently, a group of scholars compiled a comprehensive literature review across multiple disciplines to gather information on the current research trends. The scholars found that five categories emerged: 1) everyday media practices, 2) assessment of opportunities and risks during migration, 3) maintenance of social ties, 4) asserting self-empowerment, and 5) promoting health and education (Mancini et al., 2019a, p. 17). The method included conducting a literature review on the formula: *medium + target = consequences on refugee's experience*. For example, this means, their strategy for finding the results to their research question involved searching for *published* studies that employed key words in relation to the use of a medium (cellphone, mobile phone, smartphone, and its variable terms) by a target (asylum seeker, refugee, migration, migration, unaccompanied minor). Their search rendered a total of 37 publications on the subject of forced migrants, media use and its implications on migration prior to 2019 (p. 6).

¹⁷ In these studies, researchers used the term “refugee” to describe forced migrants. To maintain consistency, I have used the term “forced migrant” instead.

mobile technology infrastructure for wayfaring and information gathering (Mancini et al., 2019b). For instance, many swapped, exchanged, or borrowed batteries from others; many could verify paths and routes, or signal that there's danger; many generated content for digital witnessing (for digital publics to view from afar) to connect with activists, advocates, and journalists (Mancini et al., 2019b). Thus, according to the research based on migrants who have access to smartphones and the infrastructure to use them, smartphones are perceived of as highly important during "flight."

This trend grows out of the studies have looked at the motivations for forced migrants' diverse media practices. Alencar et al. (2018) has summarized the most relevant motivations for cell phone use among forced migrants: information seeking, entertainment, interpersonal communication (relationship maintenance, social connection), diversion (escape from boredom), and surveillance (to get information about events and civic engagement) (p. 832). The most common stressor for forced migrants is family deprivation, extended separation that result in psychological trauma and feelings of guilt. Thus, the cell phone is a companion, organizational hub, life line, and diversion (Alencar et al., 2018).

Likewise, Dekker and Engbersen (2014) argue that social media by proxy of a smartphone and internet is an advantageous communication channel in migration networks because they actively transform the nature of these networks. However, it is to be noted that in these studies, thus far, the cases all involve migrants who have access to smartphone. Not only are forced migrants able to maintain strong ties with families, they are able to establish a new infrastructure consisting of latent ties—which increases their potential for being "streetwise" (p. 401). Latent ties are ties that exist but have not yet been activated (p. 404). Latent ties provide the groundworks for formerly unacquainted individuals to connect through the open structure

afforded by social media. Chance or meaningful social interactions between users activates latent ties, which shifts these ties over into weak ties. Weak ties are made up of unrelated people who participate in groups or clubs (Granovetter, 1973). At its most basic, weak ties are acquaintances. By engaging in interest-based social media groups such as groups interested in imminent legislation or border crossing strategies, users activate their latent ties (Dekker & Engbersen, 2014, p. 404). Their social network transforms through digital interaction. This increases a forced migrant's overall network capital. Although Dekker et al. are optimistic in articulating that doing so facilitates migration, this study and earlier studies largely do not consider the different environments in which migrants journey and the difficulties within those environments in terms of accessing mobile media, and thus social media, as well as access to infrastructure such as Wi-Fi or cellular networks.

However, as noted in the opening of this chapter, digital migration studies tend to look at forced migrants en route to the European Union (Leurs & Smets, 2018, p. 11). Actually, 31.8% of studies within in this research area focused on Syrians who were on their way to Europe (Mancini et al., 2019b).¹⁸ Although, no migration experience is the same, migrants coming to Europe experience a different environment than those arriving into the United States. The majority of migrants that migrate to Europe come from many countries ranging from Syria, Turkey, Iraq, Afghanistan, the North African countries etc., while migrants to the U.S. come

¹⁸ The remainder of the studies had the following focus: 15.9% on forced migrants from mixed origins, 11.4% Sudanese, 11.4% Hazara, 6.8% Burmese Chinese, 6.8% Iraqi, 6.8% Somali, 2.3% Eritreans, 2.3% Tamils, and 2.3% North Korean.

have come from the Central American countries, Cuba, Haiti, etc. Each country that migrants pass through are different. For example, for those migrating through the U.S.-Mexico border, there are large deserts to pass through. It's difficult to access drinking water in these cases, and access to cellular service has not been studied for this area. So while some researchers have identified the cell phone as a tool of empowerment (Dekker et al., 2018; Dekker & Engbersen, 2014), others argue that doing so suggests that all forced migrants now have the capabilities¹⁹ and skills to navigate the complex landscape of information and border regimes along their routes (Mattelart, 2019). Not all forced migrants have the same opportunities to use these tools. Furthermore, technologies work differently in different media environments. For example, using a smartphone in an area without cell phone service limits its functionality. In fact, Mattelart challenges the idea of digital technologies as a means of seamless communication across borders because sometimes there simply isn't the infrastructure to support networked communication, let alone communication across different countries (p. 588). To this end, I develop Mattelart's arguments further, not by focusing on literacies, but by focusing on the argument that the infrastructures to support mobile connectivity is not widespread or evenly in place. As researchers have focused mobile phone use and its affordances for forced migrants, they have unintentionally assumed that there is some degree of uniformity in access and in the

¹⁹ As a reminder from Chapter 2, the use of "capabilities" here is significant and is related to Sheller's (2018) *Mobility Justice*, Nussbaum's (2003) *Human Development and the Capabilities Approach*, and Sen's (1984) *Human Capabilities and Commodities*. In economics, the capabilities approach is an alternative to the commodities approach that posits that if people are given certain commodities then they will develop in certain ways. Instead, the capabilities approach is a relational approach that posits that if you develop an environment for people to develop in, their capabilities reflect their environments.

infrastructures that support mobile communications and digital connectivity across vastly diverse locations (Mattelart, 2019). Overall, the existing research consistently finds that mobile phones are advantageous for forced migrants because of digital connectivity, but I believe many of these studies do not consider the different media environments in which mobile phones are embedded. This is because different media environments, due to differences in infrastructures, produce different affordances and possible uses for mobile phones. Therefore, I use kinopolitics as a method to highlight the material realities and multiple infrastructures that “digital migration” exists within.

Hybrid mobilities

Hybrid mobilities is a concept that is especially helpful for understanding forced migrant mobilities in the context of hybrid space. Often forced migrants experience unstable, unreliable, or ever-changing environments that introduce them to different sociotechnical assemblages that condition their experience of hybrid space. For some, there are long stretches of time where all they can do is engage in virtual mobilities. In 2015, at the “height” of the Syrian migration “crisis,” news sources reported heavily on how forced migrants used smartphones to “stay in touch” (Brunwasser, 2015; Hartocollis, 2015; O’Malley, 2015; Witty, 2015). Following this, researchers and reporters shared findings about how forced migrants were using smartphones for wayfaring (Frouws et al., 2016; Gillespie et al., 2016; Horn, 2015a). Wayfaring is a kind of mediated mobility where the user can locate herself on the screen and where her physical geography is re-scaled on to the screen. But again, as already mentioned, in order to do this, there needs to be the infrastructure and the freedom in mobility to do so. More than often, as more recent studies have suggested, forced migrants use digital media to plan and coordinate

their routes in advance (Dekker et al., 2018; Newell et al., 2016). Although this is a kind of wayfaring, it is not exactly mediated mobilities because of the time lapse and the break in connection between what is occurring on the screen and on the ground. For this reason, hybrid mobilities refers to this kind of mobility wherein a constellation of movements occur between informational landscapes and physical geographies—and they are embedded with kinopolitics!

Hybrid mobilities are movements across hybrid geographies. However, it is not limited to only the digital spaces (such as that of virtual mobilities), and it is not limited to the synchronous coordination of physical and virtual mobilities (such as that of mediated mobilities). For example, de Souza e Silva and Xiong-Gum (*forthcoming*) have argued that in instances of emplacement (being displaced internally such as being confined to low-income “slums” or low-resource refugee camps), mobile technologies extend mobilities by allowing users to re-constitute their environment and spatial logics onto a hybrid space. They offer the example of Bus 581 that runs from Cosme Velho to Gávea, neighborhoods in the South Zone of Rio de Janeiro. In such a resource-stricken area with little government oversight and unreliable public transit, a bus driver decided to use the WhatsApp application on their mobile device to create an informational space for the bus routes and their users. Arguably, the bus driver’s mobility through the city and their location is represented as information via broadcasts on WhatsApp, so the bus driver engages in an example of mediated mobilities by broadcasting to potential passengers the real time bus locations, departures, and arrival times. However, the future passengers who are waiting for the bus to arrive engage in hybrid mobilities because they know where the bus is, but they will not always be where the bus is. On the bus, they are moving in concert with the net locality of the bus, but off the bus, they are moving out of sync with the bus but always aware of its net location. A similar situation occurs in wayfaring. For example, in a

Facebook page, “Europe without Smugglers,” there is a network of migrants and refugees who annotate information on to re-scaled representations of physical geographies (maps) that give details about what to expect in those locations (Frouws et al., 2016). Some users even share information about who is where. For instance, one user writes, “My dad and brother are also travelling [,] and we are in the process of forming a group, call me on this number: xxx.” This page becomes similar to a *TripAdvisor* page that communicates about plane ticket prices, bus prices, and smuggler rates and smuggler safety ratings. But, this page, nonetheless, allows forced migrants to engage in hybrid mobilities through the asynchronous access of information; yet, this page still allows for virtual mobilities when the environment does have the infrastructure to sustain it. Therefore, hybrid mobile capabilities refer to the capability to engage in virtual mobility, mediated mobilities, and physical mobilities, this concept is slightly different. It includes and accounts for the movements that happen off line or on the surface of the earth that are still connected to hybrid spaces; whereas virtual mobilities accounts for the movement of information across digital space and mediated mobilities accounts for the synchronous movement of information and corporeal things (such as a body) across hybrid space. As, I’ll discuss in the following sections, hybrid mobilities is constituted by kinopower and composed by net localities, infrascapes, and signal territories. Therefore, mobile technologies still play a role in hybrid mobility practices, but their role involves being a facilitator and not so much a driver of those mobilities.

Mobile media organizes space and is a source of kinopower

Mobile media, in general, allows people to relate to a space in ways that connect them to both people and places while on the go (S. W. Campbell, 2013, p. 11; de Souza e Silva & Frith, 2012).

However, mobile media are not only devices that are mobile. For instance, in this chapter's introduction I discussed bordering technologies as mobile media. Bordering technologies change how a person relates to space. Most obviously, bordering technologies reconfigure a person's mobility through space in the form of passage or stoppage (Flores, 2019). Mobile media also come in many forms such as books, Walkman, iPods, barcodes QR codes (Quick Response), RFID tags (radio-frequency identification tags), and wearable technologies such as FitBits. All these technologies reconfigure the ways social relations are played out in space (Frith & Özkul, 2019). For instance, the Frith & Özkul described Schivelbusch's (1977) account of books used on trains from *The Railway Journey*:

...the train travel was the first time many people were surrounded by strangers for extended periods of time. They consequently had to establish new norms and new ways of navigating the mobility spaces of train travel. The book and newspapers were one way they did so by using these forms of mobile media to negotiate a certain type of control over their spatial experience, and that control was later adapted by commuters' use of smartphones to avoid encounters with strangers (Frith & Özkul, 2019, p. 294).

The book serves as an example of how a person uses mobile media to relate and to organize space or as a mobile interface (de Souza e Silva & Frith, 2012). Firstly, going with the theme of the reader on the train, the reader is situated in a setting of waiting with strangers to arrive at their destinations. To arbitrate the level of her social interactions or the dynamic between public space and private space, she uses her book as a social interface (de Souza e Silva & Frith, 2012)—as a way to engage with the public while maintaining her desired degree of private space. Whereupon she would like to engage with the public space, she looks up to make eye contact or to listen. Then, she uses her book to disengage from the public. Within the book, she

engages in mediated mobilities among the informational landscape created by the book. Some theorists refer to this as virtual or *imaginative mobilities* (Hannam et al., 2006, p. 4; Sheller & Urry, 2006, p. 218). All the while, she is managing both engagements as long as she is moving around with her book. In the absence of the book, she would not have the ability to manage space; thus, not having a book as a mobile device changes her relationship to the space of being on the train with strangers and would change how she distributes her engagements.

Mobile media as drivers of kinopower

Mobile media has the ability to reorganize space or produce spatial ordering, and as such it is a source of kinopower because it circulates and redirects flows, as in the direction, speed, and traffic of things that are moving. First, flows are continuous movements, while a junction is a redirection of the flows back onto itself or elsewhere (Nail, 2015, p. 27). Although flows are constantly moving, junctions are drivers of these flows. In this manner, the junctions direct the traffic of the flows. According to Nail (2016), it is precisely the spatial ordering of society and social relations that produces borders and subsequent series of divisions and circulations (p. 9). Spatial ordering and the creation of societies are mutually formative. Meaning, space produces social relations and social relations produce space and in no particular order. For instance, the park or plaza becomes a social gather place because people have relationships with each other and so engage in some synchrony to their movements that gather into the park or plaza and vice versa. For this reason, Nail (2018) argues that before there is being, there is motion. Although this still remains true, there are also regimes of motion or *kinopolitics* that disrupt the flow of motion and this reconfigures the potential of being (Nail, 2015, 2016). As mentioned in the previous chapter, the conceptual basis of kinopolitics is the analysis of social flows or mobility

of things. And, from the previous chapter, I discussed the elements of kinetic assemblages in that flows are inscribed in junctions, which are inscribed in larger systems of circulation. For this reason, kinopolitics is a method for understanding multi-scalar mobilities, or the mobilities within mobilities. Later on, I'll discuss how signal territories emerge as a result of junctions that control the flows of signals and electricity.

Junctions also allow for the yoking, or the (re-)joining of, and augmentation of flows. Junctions do so not by actually moving the flows faster or slower, but they do so by putting the flows under the control of something else, under the control of a driver such as a mobile medium (Nail, 2015, p. 27). The mobile medium directs the traffic of flows. For example, the book and the headphones are not only a social interface for public spaces, but they are also the drivers of social flows, in terms of the flows of attention. Again, a book or headphones can indicate and signify to others when and where engagements can or cannot happen; thereby, passing and stopping flows. If a person waiting in a room with others and recognizes the book or the headphones as part of someone else's state of being, they limit their interactions. They potentially may avoid them, thus influencing their mobilities. But ultimately, the driver—in this case the book or headphones—absorbs the mobility of the yoked flow while remaining relatively immobile. The same is true for mobile phones. The mobile phone moves with the user, but the mobile phone itself does not actually move. Instead, it is a driver in that the driver is a “mobile immobility” that moves by the movements of others (p. 27). As for junctions, the mobile phone is a hand-held kinopolitical machine that can direct the flows of information and communications. Mobile phones can organize space in this manner. In connection to migration flows, mobile media, such as bordering technologies, direct the flows of forced migrants and enact spatial ordering in border spaces.

However, junctions are inscribed in a larger ordered network of junctions, referred to as *circulations* (Nail, 2015, p. 29), and so it becomes necessary to examine the larger or global environment in which the junctions are situated. For this reason, it is necessary to examine the larger media environments in which mobile phones (junctions) are embedded to understand the kinds of mobilities that are possible. Nail's model into the layers of mobility (flows, junctions, circulation) is a helpful tool in understanding a wider scope of mobilities while also maintaining attention on local mobilities.

Staging mobile media uses: Signal territories, infrascapes, and net localities

Staging mobilities is an analytical perspective that accounts for the layers of technosocial systems that are in place in order to “orchestrate mobilities” (Jensen, 2013, p. 155). In this conception, geographical spaces or landscapes are part of the stage for mobilities to be performed on, but codes (as in computer communication codes), rules (as in social norms and laws), and cultural norms (which I interpret to be codes of conduct) come together to join technologies, infrastructures, and social spaces in the production of mobilities. First this means that locations are where these actors, infrastructures, and codes all line up, and following this, there are often scripts that are prescribed. The potential mobilities of the infrastructure of a location is the sum of its converging parts, from transit and signal pathways to internet access points and devices. Therefore, the potential to appropriate mobilities depends on what is present on stage within an environment as well as the spaces created and mobile media-drivers driving the actual and mediated flows of information and things.

As an example, urban design, as in how a city is laid out in terms of roads or spatial design, is an effective method of governmentality because authorities can rely on the *rhetoric of*

the infrastructures to create their subjects. There is no need to tell people what to do when infrastructure can suggest to them what to do (Allen, 2002). The design of spaces, as Foucault (1975) has articulated in *Discipline & Punish*, are disciplinary spaces that confer command over bodies. For Foucault, both the prison and the clinic are intricately designed spaces that are infrastructurally rhetorical so much that when in those spaces, subjects tend to already know how to behave and what is and isn't appropriate. For instance, in the clinic, one waits to be told their diagnosis and assumes a kind of *subjectification*—allowing others to govern their sense of self.

Therefore, design disciplines the mobile conduct of its subjects, encouraging them to forfeit their technologies of the self. Designs dictate the appropriate flows of movement and discursively instill in them the common practices or knowledge about certain kinds of conduct in certain areas (Allen, 2002). As such, the lay out of the cities or of any landscape, as results, have a rhetorical and material consequences and affordances on mobilities. For example, even the desert that appears to be a wilderness is a designed landscape as one approaches the U.S.-Mexico border. There are pathways, roadways, the border wall, aerial surveillance systems and communication infrastructures that all shape affordances in ways that produce *differentiated subjectifications*, or mobile subjects. In this manner, kinopower is a relation between the signal territory, the infrascap, and the net locality as the migrant is subjectified.

Borders and signal territories, an issue of stratified mobilities

Environments are embedded with infrastructures for mobile communication and mobility. A signal territory is a landscape that is defined not only by political sovereign boundaries such as the nation-state; rather, it is the landscape that represents an array of material conditions that make use of media possible (Parks, 2013; Parks & Starosielski, 2015). It is the terrain of signal

traffic. Parks (2013) explains that signal territories are bound by an array of broadcast facilities, including stations, towers, antennas, and microwave links. These facilities are vital to the operation of broadcast systems, networked communications, and the production of media cultures. These facilities did not emerge overnight, and not all locations are equipped with these facilities. In rural Mexico, satellite and WiFi come together to bring signal service to remote areas (Rostad, 2018); for example, the Texas-based company, NetNearU (which has now been acquired by Viasat), managed WiFi services through a browser-based login. In doing so, an internet signal could be shared using an access point. This means, although the overarching signals for internet connectivity were available via satellite, the WiFi signal was still only accessible through certain points. Daily, we experience this when we ask to join a WiFi network from cafes or coffee shops. We lose the signal as we leave the location. In this situation, there are no border patrol agents per se, but the border patrols itself through the distribution of the signal and inscribes a territory. As a result, signal territories contain aspects of bordering technologies and the control of mobilities: to make use of cellular or broadcasting signals, a person forfeits a degree of their mobile agency to remain within the signal's territory. To access a hybrid space, a person confines their mobilities to that particular geographical space that is created by the signal.

Along the U.S.-Mexico border, portions of the signal territory are shared between the U.S. and Mexico. Because the infrastructures of vehicle highways and radio bands are laid out across the border and shared between the nations that reside along the two sides of the border, sometimes, the Federal Communication Commission has to step in when governments are involved over signal traffic rights because signal territories can be as political as physical territories. As of 2015, Mexico was supposed to resolve a bandwidth issue with the U.S. concerning the 800 Megahertz band for Sprint. The United States mandated that Mexico free up

some space on the 800 Megahertz band for Sprint, particularly for first responders on the other side of the border (Villagran, 2015). Not providing Sprint with some freed up space on the 800 Megahertz band has become an issue for public safety providers and wireless operators in communities along the U.S.-Mexico border because neither are able to access service while on the move along the border. Space on this spectrum was especially designated for public safety communication networks, although community members could also use this spectrum by nature of their locations. However, due to Mexico's non-compliance to free up signal traffic space on this band, these communities along the United States side of the border could not access wireless broadband services through Sprint's network. For first responders, this means, as their locations change in and out of range, their access to mobile communications also change. Therefore, while the infrastructure to access mobile communications is present globally, based on location, the actual uses are not seamless when translated to a local setting. As a result, signal territories along the border present issues of stratified mobilities wherein users' mobilities come at the cost of a lack of mobile communications.

First responder's ability to use this service varies from one location to another, which is risky when responding to emergencies and well-being depends on a dependable stream of information. Although, this might seem as an issue of access to the cellular network, this is really also about mobility. First responders are not able to move as efficiently through locations of no signal. They may be traveling on the physical terrain, but without the informational space, their mobility is limited because there is no informational layer of space to which they can mediate their mobilities. We have experienced this to some degree as the "dropped call" and we probably avoid these areas and or forfeit the informational layer of space. Connectivity is not limited to co-presence: it's also about having a meaningful relationship with information.

However, the lack of bandwidth isn't the whole problem for connectivity through signal access. In a different scenario along the U.S.-Mexico border, Verizon customers complained about dropped calls and slow internet speeds (Ong, 2019). After several complaints, Verizon made a public announcement that a new wireless operator in Mexico, Altán Redes, has recently launched service along the border using the 700 Megahertz band—the same one that Verizon uses for its customers! As a response, Altán Redes announced that it is not radiating its service signal into U.S. territory and that they are in full compliance with the radiation protocols established between both countries. Now, it's up to the FCC to settle the dispute. Regardless, customers on both sides of the border are experiencing diminishing cellular signal, inaccessible data, and dropped calls (Hargrove & Bob, 2019). So, in this case, access to digital connectivity is not so much only an issue of bandwidth, it's also an issue that is tangled in government policies and regulations. Hence, signal territories begin to shape hybrid spaces since the mobility regimes that control signal territories are enfolded into those hybrid spaces.

Signal territories stage where internet capable mobile media devices can be used, and they are kinopolitical infrastructures. They create junctions for smartphone devices that drive the mobility flows of forced migrants into certain patterns of circulation that create borders through signal range. For example, despite wide coverage of Syria-Tel, one of the major mobile network provider in Syria that offers 4G access, Syrian users must rely on the technologies of the self or self-governance (Foucault, 1977, 1988) to appropriate for mobile capabilities. Meaning, they have to make appropriations to get access to signals. In the absence of networked infrastructure, forced migrants become governors of their own mobile and communicative conduct by at the cost of moving and communicating outside of their circulation of belonging. In an interview

conducted by Hayes (2019), interviewees explained that the coverage of Syria-Tel was unreliable, although it is one of the two major service providers in Syria.

Syria-Tel users were subjected not only to the physical borders, but also the borders of the signal. Some users explained that they had to switch SIM cards along the Syrian-Turkish border (Hayes, 2019). In doing so, these users appropriated for mobilities and mobile communications, and by refusing to be subjectivated or governed by the signal territory and, in this manner, users engaged in using the technologies of the self, but this can come at the loss of either physical or signal territory. An interviewee said,

Most of the people use Syria-Tel, but there was a Turkish company close to the border. That's why they were using Turkish SIM card[s] which [were] working effectively because the [Syrian] government left... (p. 666)

And similar to the bandwidth issues discussed earlier between Verizon and Altán Redes or Sprint and the Mexican government, as Syrian cell towers went down, the bandwidth opened up for more Turkish users. It was obtained from the interviewees that when cellular towers were destroyed as a result of the on-going civil war conflict, the Syrian government did not repair these towers as efficiently or timely (Hayes, 2019). So, not only was the geographical territory diminishing, so was the signal territory. However, because locations are networked differently, it was possible to access another signal territory as many of the forced migrants from Syria were en route to arriving at another geographical territory. But, as one can imagine, those without the advantage of multiple pre-paid SIM cards were ultimately prevented entry past the border to the Turkish signal territory. It is within signal territories that forced migrants can access information landscapes on the screen or infrascapes. Without access to hybrid spaces by proxy of internet connectivity, the information about physical geographies are not navigable or meaningful.

Infrascapes and the mediation of landscapes

Infrascapes refers to how software is recoding and rescaling territories (Sheller, 2009). Infrascapes shape how mobile media users view, interpret, and imagine landscapes and, thus, how they make mobility choices based on what is communicated or what information is represented. Sheller (2009) argues that mobilities are controlled discursively through perceptions about physical locations that are controlled or re-imagined through our experience with screen-based technologies. In association to this, Sheller describes how mobilities are constructed through infrascapes,²⁰ such as the example of the Caribbean “virtual islands,” which are a mix of physical space with software (p. 1391). She argues that software is recoding and rescaling the island space and re-configuring the islands into new territories and governance. Through this process, applications such as *dbox* are used to produce a computer rendering of the “dream home” situated on the virgin island, but the island is re-scaled to highlight its attractiveness as a setting for the luxury home(s). In doing so, through the application, future homebuyer(s)—similar to the *Pokémon Go* gamers—imagine their mobilities and maintain their attention within the space that is represented. The software used to envision the new island performs route-work by compelling new flows of money, things, practices, and laws (and more infrastructure such as

²⁰ In *Staging Mobilities*, Jensen (2013) introduces the concept of “metroscapes,” which is quite similar to the idea of “infrascapes,” but with the digital divide as a backdrop to forced migration, I have purposefully decided to not use metroscapes because its emphasis on urban settings, which are often associated to more developed locations that does not necessarily reflect the sum of possible geographies that have been infused with transit, communication, and network infrastructures. However, I return to an older concept, “infrascapes” to signal to the fact that, indeed geographical landscapes have become infused with various infrastructures, but it is not *only* urban geographies. Rural and “undeveloped” locations are increasing networked through both transit and networked communication infrastructures.

roads and bridges that connect only certain locations to each other) emerge to serve to protect these new flows. In this manner, infrascapes are implicated in discursive and material mobility practices, as mobility practices—in the moment and in the future—are increasingly entangled in the landscape of information. For forced migrants, the landscape of information matters in terms of wayfaring because this can influence mobility choices. As discussed in the following examples of *Pokémon Go*, *TripAdvisor*, and Google Maps, infrascapes emerge as the result of two main things: program code that is envisioned by a designer or designers that manifest in how a user experiences information, the display logics of devices or GUIs. These elements come together to shape how physical landscapes are represented digitally on screens. Moreover, when location-aware mobile technologies such as mobile phones are involved, program code and display logics do not necessarily only help users to “decode” or understand the physical landscape, but they also “recode” or annotate new meanings into physical locations. This is because mobile technologies also serve as social interfaces that are capable of producing “mobile annotations,” which occur when information is attached to a location (de Souza e Silva & Frith, 2012). Through infrascapes, information is absolutely attached to landscapes that influence new mobility practices based on the logics of the “annotations.”

The popular game *Pokémon Go* offers a general example and application of the concept of infrascapes. In the game, physical landscapes are represented on the cell phone screen in terms of weather, roadways, and waterways. This leaves out the representation of trails or walking paths, sidewalks, and bridges that aren’t registered by the department of transportation. Obviously, this also leaves out houses, buildings, and other physical infrastructures such as water towers and what not that make up many municipalities. Although these omissions are relatively harmless, they, nonetheless, shape how gamers imagine where they are and where they can go.

The logic behind these choices might be that game designers want to give gamers an exact sense of location, yet, they also want gamers to only locate Pokéstops or Gyms (locations specific to the game)—and not a grocery store, for example. These game design choices shape how gamers imagine the landscapes in which they are playing the game. In doing so, transportation systems such as roads are incorporated into the game design, suggesting some routes over others by highlighting some routes over others. In turn, the game actively stages mobilities by performing the work of route-work and border work (Sánchez-Querubín & Rogers, 2018). For instance, using the game’s map display, gamers are inclined to follow the routes to Pokéstops or Gyms—unless gamers already know of existing routes or alternative routes to said Pokéstops or Gyms. In this manner, their mobility choices are limited to what is displayed on the screen as choices. In turn, this produces a circulation pattern, which then develops into a sense of place. Gamers, then, conceive of the place of the game as mainly along certain locations such as roadways, parking lots, and special memorial sites as a way to maintain the gamer’s attention within the space of the game. In Sheller’s (2009) conception, she identifies that mobilities do not just take place, but that they also make a place. Overall, this example reflects Sheller’s (2009) argument that the ways in which physical spaces are represented on the screen reflect power relations and contribute to the control over mobility.

Wayfaring and or applications and platforms that remediate physical landscapes pose a similar situation where borders and routes are (re)created through information, and, thereby, (re)create new possibilities for borders and mobilities. *TripAdvisor* is often used by travelers to review and assess the desirability of many tourist destinations. Sánchez-Querubín and Rogers (2018) argue that *TripAdvisor*’s forums, including texts and images, are a source of re-mapping Europe. The results of their study during the 2015-2015 “migration crisis” in Europe reveal that

questions posted about Greece, Germany, Austria, Hungary, and Italy mainly concern expectations about negative impacts from the migrant crisis (p. 7). For example, questions such as these emerged, “I am thinking of vacationing in Crete in 2016 and am curious to know if anybody has a comment about the effect on the Crete Island from the Syrian migrants?” “Which Greek islands are affected by the refugee crisis?” Or, “Is [the] migrant crisis affecting train travel? Train stations? I’d be safe? ...” *TripAdvisor* becomes a platform for tourists and future tourists to express their concerns as well as articulate the boundaries of desirable physical geographies. The forums converge two stories: one that traces the route making practices of migrants and another that traces detour making practices of tourists through Europe.

On the other hand, infrascapes can be appropriated for forced migrant needs. Forced migrants often use Google Maps for wayfaring (Gillespie et al., 2016). Many are familiar with Google Map’s displays that mainly communicates information for an audience of tourists or those who want to know where amenities such as museums, parks, or streets might be located. The design goal is to provide information of users to imagine how they will move through a city or suburban area. This does not communicate about potable water sources or where might be safe rest areas—things forced migrants need. As a result, some forced migrants have had to take it upon themselves to mark where these amenities can be located. For example, when a water main broke in Aleppo (Syria), refugees exchanged information and directly interacted with international agencies (Brunwasser, 2015). The group created their own version of a Google Map through Facebook that outlined and pin-pointed safe water distribution sites. In doing so, an information landscape emerges that suggests routes and mobilities. In another situation in Damascus (Syria), another group developed a similar map that included real-time counts of

mortar rounds falling from the sky. This information landscape allowed users to avoid certain areas.

Thus, infrascapes are kinopolitical in that they virtually suggest and control how people imagine and, later, execute physical mobilities. Most importantly, infrascapes stage hybrid mobilities by staging information about material environments.

Net localities, made possible through signal territories and infrascapes

Net locality is similar to hybrid space in that it is a term that describes a social space that has become hybridized towards a convergence and overlap of corporeal and connected or informational spaces, but it is distinctive in that it *also* refers to the location of the connection point (Gordon & de Souza e Silva, 2011). In this scenario, all user experiences are not homogenized. Individuals who are living without network connectivity or without access to network connectivity who live in the same social spaces that are over-layered with network technologies do not live in the same place as those who do have access. Even though they live in the same space, it is not the same place. It is as if they live in a different city because they are not actively engaging in the digital layer (p. 86). Some refer to this phenomenon as the digital divide (McCaffrey & Taha, 2019; Sassi, 2005), others, differential space (de Souza e Silva & Frith, 2012; Frith, 2012), but nonetheless, net locality challenges the idea of glocality (Meyrowitz, 1986) because it does not over-emphasize the value of informational spaces, as most globalization accounts do. As the examples from signal territories and infrascapes have suggested, an individual's access to and experience with hybrid space depends upon their location. Net locality is a more nuanced understanding of how a person's location or position in a network matter. Through mobility from one location to the next, environments change (which

can then effect access to internet and or information on the internet²¹) and so the potential to do things also changes. Thus, locations matter in that locations changes a person's relationship to information and material infrastructures. To this effect, I argue that net localities are in themselves dynamic processes that configure a forced migrant's agential capability for mobilities; so, forced migrant mobile capabilities depend on net localities.

According to Gordon and de Souza e Silva (2011), we no longer enter the web because it is all around us, but where we are located still matters because this shapes how we access the internet (p. 2). For example, through mobile media, hybrid space is enacted—situating the web all around us. But this situation is only possible within the infrastructure that allows for the access. Although the internet (digital connectivity) is a global phenomenon, the ways of using and appropriating it can't be seamlessly transported from one location to another. Gordon and de Souza e Silva write:

In net localities, the local space is the dominating involvement; however, *the local space is not always solely physical*. In the physical spaces of the street, the technology is brought to bear on one's assessment of the 'situation'. . . (p. 93, emphasis added)

This means that in a net locality, location matters, but the location is not solely physical because locations are also networked and mediated by media. For example, in any given location, there might be WiFi, cellular signals, and or sensors interwoven into the location that changes our experiences of the space and the things we do in that given location, or access to information

²¹ Locations can influence access to information. Many of my international Chinese students have expressed that when they are in China, they cannot access any information that I share with them through any Google Suite products. This is because in 2010, China instituted a ban on Google (Yuan, 2018).

about the space. Similarly, through any device or application, information about locations can be experienced differently based on location. For example, in the situation involving mortars falling from the sky in the heavy war zone of Damascus is an example of net locality. As mentioned earlier, a Syrian refugee Facebook group took it upon themselves to map the locations or real-time threats (Brunwasser, 2015). The group collected detailed spatiotemporal data (the exact location and time), included annotations about geographic features (in this case, it would be warnings about the falling mortars from the sky), and then share this information online with other refugees. This is quite an interesting appropriation of this GPS and GIS because things falling from the sky aren't usually mapped onto information landscapes. This may have been seen in historical renderings of wars, scientific renderings of comets colliding with planets, or weather reports. Nonetheless, there is a convergence of digital and physical information that informs mobility choices. On a different note, a refugee, Salmoni, who was on his way to the Damascus conflict zone, was able to avoid certain death because he had to stop to charge his phone at a kiosk in Belgrade (Brunwasser, 2015). Although this isn't exactly another example of net locality, it is an example that speaks to net localities' role in the lives of forced migrants. Before the decision to proceed further, Salmoni decided to first charge his phone so that he could then use its functions to locate both the information on the screen and the himself on the earth. To a person like Salmoni, a location is not always solely physical. So, mobility choices are constituted in hybrid spaces that enfold local information with the digital information.

In this manner, net locality demands attention between what is physically local and globally digital. As with signal territories, each location is uniquely composed of various infrastructural elements from services available, bandwidth options, to the accessibility of services and or devices. Applying this dynamic to the border space makes net localities even

more of a reality because governments also regulate these infrastructures differently. Recently, a Turkish internet service provider, Türk Telekom—which is partially government owned—restricted access to popular social media sites near the Syrian border cities such as Gaziantep, Şanlıurfa, and Hatay (Martineau, 2019). This “black out” happened days after the United States pulled U.S. Troops out of the area.²² During this time of the “black out,” Turkey happened to also take out a military operation of moving against Kurdish forces in northern Syria. Although the two events (of the black out and the Turkish strike on northern Syria) have not been reported as related, the fact that they occurred at the same time is an example of the complexity of hybrid space for forced migrants. Applications that were impacted by the government internet black out were Facebook, Instagram, Twitter, and WhatsApp along the southern border for approximately 48 hours. This decision strategically prohibited the activation of net localities. Unlike the Syrian refugee groups that were able to use Facebook, GPS, and GIS application to communicate about clean water sources or falling mortars (Brunwasser, 2015), citizens at the Turkey and Syria border—because of their exact location—were not able to communicate about the Turkish strike against the Kurds. By taking away the signal, Türk Telekom was able to temporarily eliminate net localities, hybrid spaces, and signal territories, that is, the overall communication that inform mobilities.

²² Turkey considers the Kurdish forces to be a terrorist insurgency, although this group has historically been backed by the United States. The Kurdish fighters, members of the Syrian Democratic Forces, has been one of the United States’ most reliable allies in the fight against the Islamic state (ISIS) in northern Syria (Schmitt et al., 2019). However, recently, per Trump’s directions, despite backlash from the Pentagon, the U.S. has withdrawn U.S. forces from Syria. Representatives have argued that allowing Turkey to move into Syria may be one of the most destabilizing moves for the Middle East (Schmitt et al., 2019).

The body as an overlooked location of networks of struggle

Although the focus of this chapter is on the importance of locations as they stage the potentials for mobilities, I want to add that the body itself is also a location of differential sites of power and infrastructural access. When there is no stage for mobilities in a current environment, as to be discussed with the following examples, deeply disenfranchised people attune to their living conditions by changing the environment itself—by moving, by migrating. The body (or gender) plays a crucial role in the constellation of one's mobility. Thus far, I discussed locations as signal territories, infrascapes, and net localities, but to respect the different media environments in which forced migrations can occur, I extend a conversation to discuss the *locations where there are no infrastructures for mobilities or mobile communication*, apart from the body. As such, this section considers mobilities, or more specifically migration, as a technology of the self—as a way for those deeply disenfranchised to reject their living situation in pursuit of a different one. Migration itself is a performance of actively rejecting the existing forms governmentality: it is an active turning to a different logic of governmentality that is attuned to what is the best for a person, and it affords a person to change their environment to better appropriate for their survival.

Young women, or women traveling alone, are susceptible to bodily harm and sometimes have to engage in unwanted intimate relationships to protect themselves from further bodily harm (Angulo-Pasel, 2018a). They often migrate within media environments that limit mobile communications. Additionally, women migrating with others tend to migrate with children, which increases bodily harm to women and children especially in situations involving smugglers and human trafficking. Without access to mobile communications, it is easier for them to disappear. The United Nations' Children's Fund (UNICEF) reported that routes such as the “sub-

Saharan Africa into Libya and across the sea to Europe” is one of the deadliest and most dangerous for women and children (UNICEF, 2017). Afshan Khan, the UNICEF Special Coordinator for the Refugee and Migrant Crisis in Europe was quoted saying,

The route is mostly controlled by smugglers, traffickers, and other people seeking to prey upon desperate children and women who are simply seeking refuge or a better life.

Additionally, in a UNICEF report based on a field survey of 122 people (82 women and 40 children), nearly half of those interviewed reported that they have experienced sexual abuse during migration, some multiple times and some at multiple locations along their route (Romenzi, 2017).

Out of UNICEF’s study on the sub-Saharan Africa route to Europe, approximately three-quarters of the children reported having experienced violence in general, including harassment, beatings, and emotional abuse. In addition to this, sometimes women and children were shown “mercy” and were allowed to “pay as they go,” which often resulted in monetary debts (Romenzi, 2017; UNICEF, 2017).

In a personal correspondence with Hayes (2018 RSA conference), he explained to me that many of the refugees in the camp that he conducted his field research were women. But he also recalls that his study examined the use of 2G mobile phones that relied on voice and text messaging. This aligns with the trends occurring at the U.S.-Mexico border: more women (and children)²³ are showing up at the border (Rutkin, 2019). In recent years, Mexican drug cartels

²³ Although this UNCHR report focused on women, most women have traveled as an assemblage of care-giver or guardian and child or children. The UNICEF reports account for this traveling assemblage.

have extended their reach towards Central America and have increasingly built links with major criminal armed groups such as the MS-13 and M-18, who are cartels fighting over drug route control (UNHCR, 2015). Since 2006, there have been over 80,000 reported deaths along this route as a result of this conflict (p. 12). In relation to this drug cartel expansion, women mainly reported direct abuse by criminal armed groups and reported being targets for involvement in rival criminal groups (p. 22). In summary, the environment and locations of Central America lack infrastructure to stage everyday social justice, and for this reason many women (and their children) are “on the run.” The U.S. blocks these women and children from taking “regular” channels to travel into the U.S., whether as migrants or asylum seekers. So, women and children are subjected to kinopower relations that expose them to violence. Again, although this example might seem out of place, it actually demonstrates the need to theorize about forced migrations in locations without networked communications to really understand the dynamic between forced migration and digital connectivity. In this location, there are no stages for mobility—yet many women find their ways out towards the border.

Many studies in digital migration and news reports call attention to a disproportionate number of migrants who are young, unmarried, and unaccompanied males, as opposed to the previous examples of women migrating with children. News media outlets often report that Syrian refugees are typically male and young” (O’Malley, 2015); meanwhile, researchers have noted that refugees tend to be male and young because they have more mobility as compared to women (Cresswell, 2004; Cresswell & Uteng, 2008). According to the Pew Research Center (2016), since 2015, about two out of ten asylum-seekers were male minors under or at the age of 17 (20%). While four out of ten asylum-seekers were young males ages 18 to 34 (40%). Against these statistics, one out of ten (10%) were young adult females in the 18-34 ages bracket. This

means that women are a minority in terms of the numbers that are being reported from organizations such as the Pew Research Center. But, according the studies conducted by Hayes (2019), UNHCR (2015), and UNICEF (2017), women are the majority on the move. Therefore, there are conflicting reports on the status of women and migration that need further study. As of right now, these trends and results point to the conclusion that we need a framework for understanding forced migration in the age of digital connectivity wherein digital connectivity is not a thing that is universally accessible, one that considers the existing infrastructures of a location and how these infrastructures shape forced migrants' access to hybrid mobilities.

Hybrid space and hybrid mobilities

During forced migrations and or displacements or emplacements, locations and distance are central problems or points of contention, with or without digital connectivity. Hybrid space, made possible through digital connectivity, does not eliminate the corporeality of distance and locations. Hybrid space doesn't mean that the distance between is no more, although it does blur the borders between the physical and the digital. In hybrid space, there are pockets of different contexts such as physical and digital spaces that fold into one another, and the enfolding of these contexts is always dynamic and changes based on the mobility of the user, the device, and the available infrastructures that sustain digital connectivity (de Souza e Silva, 2006). This means that hybrid space is subject to the power of mobility regimes, that is, to kinopolitics. Enacting hybrid space is a power struggle when forced migrants are faced with the issues of signal territories, infrascapes, and net localities because these issues are embedded in larger media environments that allow for some capabilities to flourish over others. By this measure, the digital, which is implicated in the hybrid, is also subject to kinopolitics and larger social and

political forces. For instance, enacting hybrid space for a forced migrant coming out of Central America towards the U.S.-Mexico border allows for digital connectivity, but it comes at the cost of possibly being robbed of their devices (Newell et al., 2016). In this situation, the larger environment in which hybrid space is enacted shapes the possible actions of forced migrants. Thus, locations matter in that locations vary in their composition and shape the capabilities of forced migrants'. Capabilities are relational and reflect the available infrastructure that support them.

For forced migrants, distance is a key issue in their daily lives. For instance, there is the distance of the route; there is the distance between family members; there is the distance to the next location. There is always distance. The notion that the distance between us is no longer an issue has been exacerbated by earlier theorists of "new media" who while trying to re-conceptualize space in the context of new media erroneously applied their insights to space in general. This begins with ideas that valued informational space over social spaces that led to ideas that conflated informational spaces with social spaces. Namely, Meyrowitz' (1986) *No Sense of Place* explores the impact of electronic media such as television on social behavior. He argues that electronic media have created new social situations that no longer depend on where we are or who is with us. The rationale behind this is that media transforms or rearranges how we sense information and how we make sense of physical and social places around us. Next, Harvey's (1989) *The Condition of Postmodernity* introduces the concept of time-space compression to describe how the acceleration of transnational relations has caused the relative distances between places to contract or "shrink the world." Thereby, the speeds and distances that we are able to cover now, compresses our perceptions of the world. Later on, Meyrowitz (2005) introduces the concept of glocality, which has some similarity with Harvey's assertions

about globalizations and its effects on perceived space. Meyrowitz argues that in a pre-electronic media setting, a location was characterized by its physical and experiential boundedness. But, the onset of new media has ultimately changed this by extending the boundaries of our local experiences with those of mediated global experiences. Although glocality is meant to understand how globalization and communication technologies are mediating our experiences of the local, Meyrowitz over-values informational space, and, in turn, universalizes and conflates the informational space with the social spaces.

In the context of forced migrations, the physical and informational spaces serve their own purposes, and they are both implicated in the experience of digital migration. As previously discussed, although not all forced migrants are able to use digital media during their migration experience, digital media—in the form of bordering technologies—are being used on them. Therefore, both spaces become forced migrants' hybrid spaces, and one does not take the place of the other. For this reason, hybrid space—and, moreover, hybrid mobile capabilities—are important tools for understanding and signaling back to both the corporeal, connective, and relational aspects of forced migrant mobilities is a process that is entangled in the earth and the internet.

Beyond connectivity, mediated mobilities

Multiple modes of mobility are facilitated by mobile media, from corporeal mobility to data migrations (Keightley & Reading, 2014). Mediated mobilities rely on material infrastructures in terms of what it takes to create a signal territory that enables access to internet and information by proxy of the internet. Keightley and Reading (2014) explain,

In this sense specific mediated mobilities need to be conceived of as embedded in existing social, political[,] and economic processes rather than naturally occurring phenomenological experiences or processes. They [as in mobilities] do not occur in a vacuum. They require various kinds of resources and labour.... Mediated mobility does not only imply an increase in free movement in time and space, but also in the ways in which movement across time and space is managed and regulated (p. 289-90)

Mediated mobilities depend on informational spaces engendered through mobile media. For mediated mobilities, physical distance is configured into the informational space. In fact, mediated mobilities is operationalized in hybrid space, which is constitutive of the physical and information geographies. Mediate mobilities requires that a user understands their relationship to their location, their net locality. This means a user has to be able to process, locate, and translate two locations at the same time. The user who is situated in a physical geography has to locate herself on the screen (which is a representation of the space she's in); yet, at the same time, she uses the information on the screen to coordinate her mobility in physical space with her mobility on the screen. This takes into account how information about physical geographies are represented (infrascales) and the materiality of physical geographies.

For example, in the study of behavior and location-aware gaming, researchers described that users of the game *Dragon Quest 9* adjusted their movements to align with both what is on the screen and what is in the environment (Licoppe & Inada, 2006, 2013). However, in the study of location-aware gaming, the mobility of the player is relational to both the space that the screen represents and the space of the player's environment. In this manner, the player can move either corporeally or as a representation through the screen space that is layered onto the immediate space—or as both. This means mediated mobilities is not so much about the “extension of the

self” through media (McLuhan, 1964). Rather, mediated mobilities is about the re-constitution of the self and its environment through media—where the self is capable of engaging in multiple modalities of mobility through corporeality or representation. Some of the studies in digital migration support this idea that forced migrants aligned their migration routes with what was mediated on the screen (Dekker et al., 2018; Gillespie et al., 2018); however, in the context of forced migration, the mobilities on screen are often *not* in sync with the mobilities occurring off screen. Although forced migrants do eventually perform the routes imagined on the screen, there is a time-lapse. The time-lapse disqualifies these actions as mediated mobilities.

The *Borderland Memorial* is an example of mediated mobilities and illustrates mediated mobility’s required coordination between what is happening in physical space and digital spaces. Mediated mobilities adds to a previously existing concept of *mobile medialities* in which people engage in new ways of interacting with others, places, and screens while moving or while pausing in certain location (Sheller, 2013a, p. 310). As physical infrastructures and informational systems converge through an array of satellites, cell towers, WiFi, and other communication infrastructures, “new media are layering over existing spaces, systems of mobility, and infrastructures” to constitute hybrid spaces (Sheller, 2013, p. 311). Meaning, digital technologies do not necessarily change the media landscape (or the environment) into something new, but they add to and depend on existing material infrastructures. Moreover, the methods of displaying locations on the screen has a direct relationship to how people are engaging with physical spaces and mobility choices. *The Border Memorial: Frontera de los Muertos* is an augmented reality and location-based public art exhibit dedicated to the migrant who have died along the U.S.-Mexico border trying to cross the southwest dessert (Freeman, 2013; Freeman & Auchter, 2015;

Sheller, 2013a). The skeletons represent the locations of where over 3,000 human remains belonging to migrant were found. This project is a smartphone memorial for those migrants:²⁴

The public can simply download and launch a mobile application and aim their devices' cameras at the landscape along the border and the surrounding desert. The application uses geolocation software to superimpose individual augments at the precise GPS coordinates of each recorded death, enabling the public to see the objects integrated into the physical location as if they existed in the real world. (Freeman, 2013, p. 129)

This experience is mediated by an entire assemblage of things including a signal territory consisting of the areas where cellular signals are accessible, an infrascape whereby the geography of the landscape is remediated on to the screen through the logics of the mobile application, the user's movements, the user and the device's exact location and the user's ability to locate themselves on their device and network (net locality), in addition to a myriad of old and new technologies that come together to make the exhibit possible. Memorial visitors can't experience the memorial without a mobile device that is capable of accessing the internet and of hosting location services and the application for the memorial. As the visitor moves through the physical terrain, their location on the screen and what they see on the screen shifts accordingly. In fact, what a visitor is able to see on the screen is location-based. By this measure, the visitor's experience with information not only depends on their mobility (changes in location) and vice

²⁴ View a slides show of the border memorial experience here:
<http://media.hyperrhiz.io/hyperrhiz12/gallery/freeman/slideshow/index.html>

versa, but their experience is staged by their mobile devices and the way that the application is programmed or designed.

Figure 1 is an example what visitors can expect to experience. Visitors point the cameras of their mobile phones in search of the skeletons. A feature of the *Borderland Memorial* is that the audience moves their mobile phones towards the sky in an effort to follow the skeleton(s): the skeleton(s) appears on the screen then proceeds to float towards the sky. Accordingly, there is a negotiation between the audience and the device: it is not only the audience that maintains the mobile agencies. Therefore, mediated mobilities goes beyond the notion of connectivity and the sense of co-presence because it is location-based and constituted in hybrid space. But, ultimately, there are concerns about how this concept can be applied to the context of forced migrants who may at times have different experience with access to technologies, devices, and information.



Figure 1: John Craig Freeman, Borderland Memorial: Frontera de los Muertos, augmented reality public art, Patagonia, Arizona, © 2015 by John Craig Freeman. Reprinted with permission.

Often mediated mobilities requires location-based media and at least a minimum infrastructure to support the mobilities that would be mediated such as in the example of *Dragon Quest 9* (Licoppe & Inada, 2013) and the example of the *Borderland Memorial* (Freeman, 2013; Freeman & Auchter, 2015). In this sense, mediated mobilities are limited to the space of the network. They are especially limited to signal territories, infrascapes, and net localities because these mobilities practices cannot be engaged outside these kinopolitical infrastructures. Through the examples of 2G phone uses and through the explanation of how different environments are composed of different infrastructures that are impacted by various kinopolitical and design decisions (signal territories and infrascapes), the potential for mediated mobilities is not ubiquitous. Although mediated mobilities occurs in hybrid space and serves as an exemplar of why locations matter, it faces some of the limitations that virtual mobilities face in terms of the availability of infrastructure. For this reason, I propose the concept of hybrid mobilities as a

helpful way to understand forced migrants and their mobility practices, especially as these practices relate to their relationship to information and locations.

Conclusion

In this chapter, I have drawn on two examples of the of 2G phone use within the U.S. Mexico border space (Newell et al., 2016) and within the Kurdistan region (Hayes, 2019) to engage the emerging literature that challenges the heavy focus on the virtual mobilities of forced migrants (Mattelart, 2019). In doing so, I demonstrate that forced migrants have different uses of their mobile devices based on their immediate media environment and based on the situation at hand. For instance, some studies have reported that using mobile phones during migration is actually dangerous and attracts, beyond surveillance, but robbers and violence (Newell et al., 2016). Next, I have discussed how hybrid mobilities are a source of kinopower, but I also point out that current research trends do not explore this issue. Rather, the current research trends focus on pro-social aspects of mobile media instead of mobile media's capacity for danger and risk as discussed previously in Chapter 2, specifically about bordering technologies and its role in the control and management of forced migrant mobilities. In this chapter, I have demonstrated that forced migrant's mobility practices are more nuanced than the dichotomy between virtual and physical mobilities. Furthermore, their mobilities also take place in more nuanced locations beyond the screen and the earth. In fact, forced migrant mobility practices are hybrid practices, incorporating the infrascapes, signal territories, and net localities—for this reason, mobile media have been conceptualized as critical to the ways that forced migrants are engaged in mobilities and immobilities. While this is true, mobile media take on this role because they are drivers of

kinopower. In hybrid space, mobile media re-arrange space as well as drive the flow of information and things.

Hybrid mobilities are dependent on situated environments that are the outcomes of kinopower. Hybrid mobilities is conditioned by the representation of space as well as the material infrastructures within those physical spaces that make hybrid space possible such as devices (that limit or enable different speeds and kinds of functions that are possible through internet connectivity) and access to the internet itself. Therefore, within in the context of hybrid mobilities, forced migrants' agency to do things and their mobile capabilities are distributed in multiple ways: at the level of infrastructures, at the level of the software that mediates and represents spaces, and at the level of the devices that enable mediated mobilities. By this measure, digital connectivity is beneficial for continuing community bonds and communication, but it is not enough in terms of how we conceive and perceive the agency of forced migrants. For forced migrants, the capability to both move information, move as information (or to communicate), should at least be a part of the rubric that is used to assess their agency. It is not digital media and connectivity, alone, that engages the mobile capabilities of forced migrants, but it is something larger such as the environment and the uniqueness of that environment such as its infrastructure that stage the possibilities for mobile communication and mobilities. Therefore, in this chapter, I have demonstrated that—beyond being a necessary tool in enacting hybrid space—mobile media are drivers of kinopower. As a driver of kinopower, mobile media has a hand in circulation of flows of information and things that come together to reorganize space and spatial relations. However, since the infrastructure to access and use mobile media is complicated by each forced migrant's sociotechnical environment, in the following chapter, I

will discuss how forced migrants have engaged in creative appropriations to enable the use of mobile media.

Chapter 4: Creative appropriations and the technologies of the self: Distributed agency in hybrid space

Overall, I have been critical about over-emphasizing the role of mobile phones and ICTs in digital migration in relation to mobilities because forced migrants are displaced in various locations and situations. Yet, this does not mean that mobile phones have not been valuable in situations of forced migration and other displacements. Forced migrants' access to digital media and digital infrastructures are not homogenous. Additionally, each location is subject to a different set of kinopolitics that condition the ways in which forced migrants are able to move through borders and territories. For example, as a response to the 2010 earthquake near Haiti's capital city of Port-au-Prince, the United States extended a special status to Haitian forced migrants. This was a Temporary Protected Status that prevented Haitian forced migrants from being deported (E. Beech et al., 2017). This special status was extended several times and finally ended in July 2019. Meanwhile, after the devastation of the earthquake, some Haitians migrated to Brazil in pursuit of low-wage work (Semple, 2016). But as Brazil's economy experienced a recent economic downturn and political conflict, many of these Haitians lost their jobs and began making their way into Tijuana, Mexico towards the U.S. partly because they had heard about the Temporary Protected Status. Although the Temporary Protected Status is no longer active, this made for an interesting scene at the Tijuana border where forced migrants from Haiti were allowed passage, while others experienced stoppage. Regardless, this example demonstrates that even in the same locations, forced migrants can still face a myriad of different kinopolitical issues that shape their mobilities. Thus, it's not completely accurate to conclude that mobile phones are the reason that forced migrants are able to find their way into destinations.

As such, in this chapter, I explore forced migrants' creative appropriations of mobile media. This approach is different from previous ones that emphasize the use of mobile media as a key to "successful" migration. In fact, mobile media such as bordering technologies (drones, satellite imaging, remote sensors, etc.) have posed as a hindrance to forced migrant mobile capabilities because these technologies practice networked communications to detect and prevent mobilities from multiple fronts. This can be seen in the European Union example (from Chapter 2) of the Eurodac, Eurosur, and Frontex assemblage in which databases, sensor and surveillance technologies, and corporate interests meet with state interests to prevent the undesirable mobilities of forced migrants coming from the Mediterranean Sea. Instead, I focus on how the creative appropriations of mobile media reconfigures power relations as well as media environments. Mobile media such as mobile phones and bordering technologies—like any technology—have configurations of power designed into them (Bar et al., 2016). To this effect, appropriating mobile media and the infrastructure supporting mobile media uses and appropriations has the potential to introduce a different configuration of power relations into locations. Through this particular focus, I want to understand how mobile media redistributes power (the capacity to condition outcomes) and agency (capabilities), in order to gain a more comprehensive understanding about the implications of digital media use during migration, and, more specifically, to understand the implications of digital media use on forced migrant mobilities.

Foucault's (1993) use of technology has always been in relation to the self, even his theories on forms of power such as *governmentality* and *biopolitics* are about the self and how power exacts effects on the self. Following his understanding that technology has always been in relation to the self, I return to Foucault's (1988) concept of the *technologies of the self* to

contextualize creative appropriations. First, the term “technologies of the self” refers to *the technologies that an individual uses to govern themselves or to conduct their lives*. When we think of technologies, we tend to think of very concrete things like tools such as hammers and devices or hardware. Yet, according to Foucault (1988), technologies can also be abstract things that underwrite the unseen but very material flows, behaviors, and stabilities of society. In this manner, Foucault describes power as a technology, as a tool that is everywhere that has no one source but is, nonetheless, used to condition capabilities. For example, knowledge is a technology of power that is used to produce a network of consequences and affordances. This can be seen in the knowledge about appropriate behaviors in social spaces such that the presence of sidewalks suggests or stages where an individual should and shouldn’t walk (Allen, 2006; Bærenholdt, 2013; Jensen, 2011). By this measure, the technologies of the self refers to the ways in which an individual conducts themselves according to the staging of the environment.²⁵ This requires knowing yourself, as in understanding *how things have come to matter* (Barad, 2003), particularly how technologies are used on you and how to use technologies.

Mostly, creative appropriations is defined as a cultural process that addresses the relationship between users, society, and technology and mainly argues that there is a configuration of power within a technology or technological system (Bar et al., 2007, 2016; de Souza e Silva et al., 2011). The idea of appropriations comes out of the studies on the diffusion and innovation of ICTs (Rogers, 1962) that treats the diffusion of technology as a specific

²⁵ In this chapter, I refer to this idea as a rhetorical attunement, and in the previous chapter, I have referred to this as the ambient rhetoric.

communicative practice about new technologies. This research trend has developed from examining individual choices in ICTs adoption (Rogers, 1962), to examining individual's perceptions about adopting new technologies (Davis, 1989), to examining how individual's intentions inform their use of technologies (Ajzen, 1991), and to examining how cultural differences factor into technology adoption (Venkatesh et al., 2003; Venkatesh & Zhang, 2010). Mainly these approaches explored issues of *adoption* that tried to account for why an individual would accept or reject a technology. Wirth et al. (2008), however, introduced a model that integrated adoption studies with *appropriation* studies, which tried to account for the many ways that a technology can be used, but more specifically focusing on the mobile phone. They argue that because of the mobile phone's multimodal functions, there are various reasons for adopting and ways of appropriating the technology. Through this integrated approach, subsequent researchers concluded that the appropriation of mobile technologies such as mobile phones can be unpredictable and even *creative*, but they are done so in relation to power struggles (Bar et al., 2007, 2016) and in relation to material resources (de Souza e Silva et al., 2011). In this chapter, I engage with this literature to understand how power relations are reconfigured through the appropriations of mobile media and the appropriations to procure mobile media access. Because each situation and location can be so vastly different from the next, a framework of creative appropriations is needed to understand something general about the very specific interactions of forced migrants and digital media.

To this end, I argue that *creatives appropriations are technologies of the self*. Forced migrants' creative appropriations can be viewed as the ways in which they conduct themselves in a given staging of the environment, and this can be understood as a *rhetorical attunement*. This concept of rhetorical attunement has lineage in the Communication Accommodation Theory,

which is a framework for understanding how we accommodate our communications according to multiple factors in an immediate situation (Giles & Ogay, 2007; Leonard, 2014). Within this framework, there is a heavy emphasis on how context, or the environment, plays a crucial role in the adoption and appropriation decisions made. In connection to the technologies of the self, rhetorical attunement signifies how an individual decides to govern themselves as well as how an individual decides on which technologies to use to conduct themselves and their lives. When forced migrants creatively appropriate technologies, they are not only attuned to their media environments but they also subjectivate themselves to a different kind of governmentality.

In my analysis, I demonstrate that power is a technology that is both abstract and concrete, and power is a process much like the diffusion process. First, I give some background information on Foucault's claim that technologies have always been about the self, or about how to conduct the self (or other selves). Following this, I describe counter-counters and introduce the concept of *misconduct* as an innovation in the technologies of the self. Next, I position Foucault's main analysis of the diffusion of power technologies into society alongside communication scholars such as Everett Rogers' (1962) analysis of the diffusion of technologies into society to re-contextualize the similarities in their arguments about technology diffusion and innovations of both abstract and concrete technologies. After describing the literature on the research trends in diffusion studies, I connect the arguments from creative appropriation studies to the technologies of the self to demonstrate that both are methods of reconfiguring power relations in order to properly attune to the governing the self. Furthermore, through my examples, I discuss creative appropriations as the technologies of the self contributes to reconfiguring power relations in hybrid space that have wider effects for hybrid mobile capabilities.

Although the mobile phone does play a major role, I do not limit mobile media to the mobile phone in order to also account for the wider sociotechnical assemblages that make mobile media use possible—including the kinopolitical infrastructures that regulate mobilities and the material infrastructures that make digital media use possible. As such, I discuss two main examples. Among them, I discuss how an indigenous community such as the Yaqui²⁶ has made appropriations to procure the infrastructure for internet access in order to first create the necessary infrastructure that would then enable to access the internet and social media to bring attention to and to engage in their community's needs. This example illustrates how a community uses the technologies of the self to configure how they want technologies to be assembled on indigenous lands. Next, I discuss how borders are engaging in the creative appropriations of hybrid space to demonstrate the material affordances that technologies of power have on forced migrant bodies and their hybrid mobile capabilities. In the end, I conclude that creative appropriation is a method of distributing agency in hybrid space because forced migrants' creative appropriations enact hybrid space to attune to the available means of hybrid mobile capabilities possible, even if it is through misconduct.

²⁶ Although it might seem strange at first to see an inclusion of indigenous communities among a dissertation that is focused on forced migrants—it is not. According to the definition that has been adopted by some scholars and is supported by international organizations, a forced migrant is an individual who is forcibly displaced or emplaced. The latter means that an individual experiences internal displacement, or the inability to move out of locations due to kinopolitical regimes.

Technologies and the conduct of the self (and of other selves)

Some Foucauldian scholars argue that all of Foucault's work can be organized into two main themes (Manderscheid et al., 2014, 2015). Foucault describes how a subject is formed through the methods of *subjectification* (the mode of being governed by others) and *subjectivation* (the mode of being self-governed) (Elden, 2016; Flynn, 1985; Gane, 2012; Kelly, 2013; Lilja & Vinthagen, 2014; Manderscheid et al., 2014, 2015). These methods can be performed through the technologies of power such as discipline, governmentality, biopolitics, and the technologies of the self wherein power produces relational effects on individual (discipline), on others (governmentality), on a population (biopolitics), and on the self (technologies of the self). These technologies in particular are not "power," but they are designed to limit the actions of individuals in society; and, in this sense, this is how power operates in society. This means that technologies are designed for behaviors.

Technologies as a whole are not thought of only as concrete technologies such as hammers, devices, or hardware, but technologies as a whole are also abstract, as in the methods just described above. Both the concrete (material) and the abstract (discursive) are co-constituted in material relations and materialize into *the formation of the subject, and or of the self*. Although Foucault has identified two modes of being for subjects, the two modes are not mutually exclusive of each other: the mode of being governed by others and the mode of governing yourself. Power is everywhere and, thus, is always on and so is the tension between being governed by others and being self-governed. To this effect, the power for others to govern a person and the power for a person to govern themselves is also everywhere. These tensions are played out in the technologies that are created and appropriated. For example, Foucault (1993)

writes, "...the self is nothing else than the historical correlation of the technology built in our history" (p. 222).

In Foucault's (1978) earlier work on the history of sexuality, he described how an assemblage of technologies—such as knowledge of science, the space of the clinic, the use of routines, and the use of "diagnosis"—assumes authority over how a person understands their identity, even when the person knows themselves best. In the following example, Foucault describes the tension between a doctor who tries to govern the knowledge of a patient about himself and a patient who tries to govern his knowledge about himself. In "Hermeneutics of the Self," Foucault (1993) starts his lecture by saying, "To make someone suffering from mental illness recognize that he is mad is a very ancient procedure" (p. 201). This statement is a criticism of French psychiatrist, Francois Leuret. Foucault describes an excerpt of Leuret's practices: Dr. Leuret takes Mr. A, his patient, into a shower room, and makes him recount in detail his delirium (p. 201):

"Well, all that," says the doctor, "is nothing but madness. Promise me not to believe in it anymore."

The patient hesitates, then promises.

"That's not enough," replies the doctor. "You have already made similar promises, and you haven't kept them." And the doctor turns on a cold shower above the patient's head.

"Yes, I recognize that I am mad," the patient repeats, adding, "I recognize, because you are forcing me to do so." ... "I assure you, however," says the patient, "that I have heard voices and seen enemies around me."

This goes on. There is cold gush of water until there is a confession that is produced. In the end, *Leuret coerces Mr. A into saying, "I admit it. I am mad; all that was madness"* (p. 202). In 1840, Leuret published accounts similar to this as a moral treatment of madness, in which the moral aspect of this treatment is justified in the device of the confession. But, today, we can clearly see that the forced confession is not a true confession.

It was interesting to find that Foucault used the concept of “innovation” in association to his discussion of technologies. Foucault (1993) argues that the confession is a late innovation of Christian technologies (p. 212). For someone of the Christian faith who has committed any serious sin, penance was used to avoid expulsion from the boundaries of the church (p. 212): “As penitent, this Christian is excluded from many of the ceremonies and collective rites, but he does not cease to be a Christian, and by means of his statue he can obtain his reintegration.” In this manner, the use of confession was taken as a manifestation of the truth, but not a truth about what the nature of the sins or what the sinner has actually done. The confession established the sinner in relation to the Christian technologies of power. Both the sinner and the mad are subjectivated by the technologies of power that limit their possible actions to govern themselves—to confess the truth they know. Instead, they confess to a truth that governs them.

Forced migrants are not expected to confess, per se, but they are asked to use an innovation of the device: they are asked to explain their case. Their case must match the norms of what has been deemed as meeting the normal qualifications for seeking asylum. For example, the I-589, the application for asylum and for withholding removal, issued by the U.S. Citizenship and Immigration Services (USCIS) is fourteen pages long; is to be filed in the correct immigration court that holds jurisdiction over your case; is to have every single question answered; is to be signed or is automatically rejected (USCIS, 2019b). This form turns the forced

migrant into an object that will be measured against the norms set by the relations of power that have materialized into the USCIS and its agents. But, moreover, this form engages the forced migrant into a series of confessions through pages of questions. Although it is not a cold shower, unlike that of Mr. A, it is a series of back and forth about what is the truth—in which the truth-teller or the subject is only limited to certain responses and possible actions. Similar to Mr. A, there is no space to tell about the voices and the enemies he continues to hear.

During the interview process that is usually scheduled for an hour, the USCIS explains to the forced migrant, “You will be asked to take an oath promising to tell the truth during the interview. Your interpreter will also take an oath promising to interpret accurately and truthfully” (USCIS, 2015). However, during the process, they do explain:

The [A]sylum [O]fficer will know that it may be difficult for you to talk about traumatic and painful experiences that caused you to leave your country. However, it is very important that you tell about your experiences so that the Asylum Officer can determine whether you qualify for a grant of asylum (USCIS, 2015).

This interview process, which produces data or information about the forced migrant as an object, determines whether the individual will face expulsion or will be reintegrated into society. As such, the interview can be viewed as an innovation of the confession. By using this technology, the forced migrant’s future possible actions, mobilities, and agency is configured through the design of the interview. Through these examples, the self or the individual is a history of the technologies that are adopted and appropriated on them and the technologies that they have adopted and appropriated, and the technologies of the self are a strategy toward governing yourself.

Technologies and the conduct of conduct

Technologies, discursive or material, or abstract or concrete, are designed to *conduct* conduct—as in to orchestrate and or govern conduct. Scholars in human computer interaction (HCI) have argued that “appropriate behaviors” are designed into the infrastructure of technologies (Dourish, 1996; Dourish & Bell, 2007). Therefore, the use of technologies renders certain behaviors, or technologies can be designed and configured for particular behaviors. Dourish and Bell (2007) explain, “Infrastructures drive and maintain standardization, reflect and embody historical concentrations of power and control, and are instruments through which access is managed” (p. 3). By intersecting Foucault’s (1988) critical theory on technologies as a source of power (through the conduct of conduct) and Dourish and Bell’s (2007) analysis of how infrastructure and design impact the behavior of collaborative systems, the studies in “diffusion and innovation” and subsequently “appropriation studies” and studies in “creative appropriations” have inspired me to understand the connections between the creative appropriations of forced migrants and the technologies of the self.

First of all, the technologies of the self can be interpreted in many ways, but in this analysis, I interpret it through their associations with governmentality, which is about the control of conduct and the control of populations (Foucault, 1977). The technologies of the self are not so much about turning to the self for “empowerment,” but rather, about becoming a source of power by becoming a creator of technologies. When technologies are created (even ideas), the technologies have the potential to stage or set the scene for possible behaviors. It is not as though a technology has the power to induce certain effects, but it can be understood that a technology—because of its features—set the stage for some possible actions over others. For example, by also having a flash on a mobile phone, there is a stage to use the cell phone’s flash

in various settings. As such, when an appropriation occurs, there is a disruption in what kinds of conducts and behaviors are distributed. Through this, power relations emerge and or are reconfigured. Borrowing from the appropriation studies literature that I will later discuss more fully, but quickly, technologies are designed to have affordances (Norman, 2013). Similar to ambient power (Allen, 2003) and following Gibson's (1986) ecological concept of consequences and affordances that says within any given environment, there are things present that make doing some things more or less possible. For instance, in a street setting with bicycle lanes, visibility for cyclists' safety is an affordance; or, through the design of the bicycle lane, space also becomes an affordance for both drivers and cyclists. Adding to this, Norman (2013) argues that the design of a technology communicates to the user what are the consequences and affordances of its design or what can and can't be done because of the design. For example, the choice to embellish the exterior of a mobile phone can be read as a kind of baroquization (Bar et al., 2016). Seeing an embellished phone with Hello Kitty figurines or Lego figurines, for example, hanging from the phones communicates to the public that there are other ways to interact with the device beyond its design—in this case, the device can also be used as a stage for the user's identity. The phone's appearance changes from how it was originally designed, and this change represents the interests and the identity of the user. This also changes how the self is presented and understood through the aesthetics of the device, which reconfigures the public's understanding of who is and isn't a part of the mobile phone culture (Ito et al., 2005). By doing this, the original designs and features of the device are appropriated to also reflect the identity of the user. Therefore, the connection between creative appropriations and the technologies of the self is about creating changes to technologies in order to engender changes in how people relate to each other and to technologies—and in turn, *how people are able to redistribute relations of power*.

Subjecting one's self to a different kind of governmentality is not the same as creative appropriations and the technologies of the self because it is a form of *counter-conduct* (Asiyanbi et al., 2019; Death, 2010; Odysseos et al., 2016; Rose, 2006)²⁷. Counter-conducts are reactions; whereas, misconducts are intra-actions. Take for example, Foucault's (1975) discussion of Bentham's vision for the Panopticon prison, a prison in which the prison's inspectors could look into the cells of the prisoners at any time in addition to being about to hear their conversations and or talk to them through "conversation tubes." Bentham envisioned that having an omnipotent governor would be "the new mode for obtaining power of mind over mind." Key features of the Panopticon's appeal is its overall design that centralizes surveillance and the surveillance itself. Therefore, in theory, as the prisoners know that they are being watched all the time and at any time and are susceptible to being criticized or spoken to at any time, the prisoners discipline and reform themselves. To adjust to this kind of subjectivity—of this kind of governing—the prisoners begin to engage in "proper conduct." But this conduct doesn't refer to politeness or civility; rather, it refers to how the form of governance (in this case, the Panopticon prison system) wants the prisoners to behave. Thus, the theory is that the prisoners' behaviors will be disciplined and standardized. In this situation, disobedience becomes a counter-conduct—a way to counter what a person is supposed to be doing.

There is a strong body of literature on counter-conducts, although some theorists conceive of counter-conducts as constituted through using socially provided technologies (Death,

²⁷ Foucault (1988) defines *counter-conducts* as "the will not to be governed, thusly, like that, by these people, at this price..." (p. 75).

2010; Odysseos et al., 2016) such as something or a convention that already exists. For example, “illegal” border crossing through the aid of smugglers is a counter-conduct of “legal” border crossing through the border assemblage. One form of authority is exchanged for another form of authority. Meaning, counter-conducts are opposite of the “normal”, and this doesn’t really open up new possibilities for being in the world; instead, it situates choice in between conduct and counter-conduct. Doing so does not make use of the *technologies of the self* because it simply makes use of the other available or existing technology. As such, I add that individuals engage in *misconduct* by adopting and appropriating socially provided technologies. In doing so, something new is created. For example, people generally understand how GPS or location services work on a smart phone, but inspired by “boat migrants,” a young Syrian female refugee living in Jordan invents a prototype for “smart life jacket” that uses GPS to communicate a person in distress’ location coordinates for rescue efforts (Alijadid, 2018). In this manner, the young inventor, Siba Obaid goes beyond counter-conduct. Obaid appropriates the smart phone and the life vest’s affordances to create a new situation for the technology to exist within. If this prototype is produced and distributed, it demands accountability for rescuing “boat migrants.” Obaid’s intervention is necessary, especially since very recently (March 2020), Malta has been accused of sabotaging a migrant boat that made several distress calls via a satellite phone while 20-miles off the Malta shores (Kingsley, 2020). In this situation, her creative appropriations, or misconduct, involves taking a technology and making it into something else or even something new that directly re-addresses an issue of power. There is no exchange of one form of authority or governance over another; but rather, there is a technology that emerges from the self—from a local position of struggle—to attune to and to re-address situation. For instance, boat migrants in this case are not limited to the governance of smugglers or the arriving country to announce their

distress. Instead, the boat migrants would use the appropriated GPS life vest to announce their distress into the data-sphere. Regardless of who does or doesn't acknowledge their distress call, there has been one made that is traceable from the life jacket. Such an action doesn't demand "punishment" (unlike disobedience); rather, it demands negotiation as new or different modes of subjectivity are introduced into the existing relations of power. In the remainder of the chapter, I'll further discuss how creative appropriations and the technologies of the self are operationalized to re-distribute forced migrants' agency.

The technologies of the self as an attunement to ambient rhetoric

The technologies of the self, as a concept, is part of Foucault's typologies of power. Some scholars have argued that this is the least developed of Foucault's concepts because it was conceived in his last decade of writing and perhaps was not completed by the time of his death (Elden, 2016). But I would contend that the technologies of the self is yet another example of Foucault's technologies of power. Foucault (1988) explains that there are four types of technologies that are interconnected, and each one of them is associated with a certain type of affordance:

(1) *technologies of production*, which permit us to produce, transform, or manipulate things; (2) *technologies of signs systems*, which permit us to use signs, meanings, symbols, or signification; (3) *technologies of power*, which determine the conduct of individuals and submit them to certain ends or domination, an objectivizing of the subject; (4) *technologies of the self*, which permit individuals to effect by their own means or with the help of others a certain number of operations on their own bodies and souls, thoughts, conduct, and way of being, so as to transform themselves in order to

attain a certain state of happiness, purity, wisdom, perfection, or immortality. (p. 18, emphasis added.)

Together these technologies construct an economy of power that subjects are immersed in, but the technologies of the self specifically refer to what subjects can do, whereas the other technologies account for how things are produced, how things become knowledgeable, and how things become governed. Thus, the technologies of the self are a continuation in understanding how power operates in a network of relations. Individuals are embedded into a network of relations that act on the individual, but the individual also acts as well. The technologies of the self contribute to understanding how subjects are formed by the relations of power and what kinds of agencies they might be able to exercise based on the technologies they have at hand.

Foucault (1988) explains the history behind the concept of the *technologies of the self* with the precept of “to be concerned with oneself.” From the Greeks, this precept was among the main principles of cities: “one of the main rules for social and personal conduct and for the art of life.” Although this precept seems abstract, it was actually a piece of technical advice to know yourself and to understand to not “...suppose yourself to be a god” (p. 19). This demands a balance of knowing something, but also accepting that this knowledge can change as things change. In this manner, knowing something is akin to *rhetorical attunement* (Leonard, 2014; Rickert, 2013). Meaning, the subject’s choice in their uses of technologies are conditioned by the ambient power relations. The subject’s motives, mobilities, and access to technologies as a whole are negotiated through ambient power relations. The rhetoric of the interface or the device and of the infrastructure that supports use communicates to the subject about the possible actions the subject can take. For example, understanding the limitation of not knowing if there will be cellular service, Newell et al. (2016) explain that forced migrants en route to the U.S. Mexico

border complete most of their planning and communications in advance of the journey. This is how this particular set of forced migrants make attunements to their circumstances. As such, through understanding the limits and possibilities of their actions, the subject acts accordingly. This concept of rhetorical attunement has some lineage in the communication accommodation theory, which is a framework for understanding how we accommodate our communications according to multiple factors in an immediate situation (Giles & Ogay, 2007; Leonard, 2014). There is a heavy emphasis on how context, or the environment, plays a crucial role in the decisions made. In connection to the technologies of the self, rhetorical attunement reflects how an individual decides to govern themselves as well as how an individual decides on which technologies to use to conduct themselves and their lives. When forced migrants choose to adopt or appropriate technologies, they are not only attuned to their media environments but they also subjectivate themselves to a different kind of governmentality. For instance, for Newell et al.'s (2016) study, not using a mobile phone was a rhetorical attunement, given the dangerous context surrounding mobile phones in the border space between the U.S. and Mexico. Thereby, if governmentality is about the control of conduct (Foucault, 1977), then subjecting one's self to a different kind of governmentality is a form of misconduct that allows forced migrants different possibilities for action.

The technologies of the self are about knowing how to use technologies, abstract and concrete to produce consequences and affordances. In both the Greek and the Roman tradition, knowing yourself was associated to another principle, "to take care of yourself." However, Foucault (1988) argues that there was a subordination of the first principle for the second principle. In this subordination of self-knowledge for self-care, society has "...inherited a secular external law as the basis for morality" (p. 22). Meaning, as members of society, we look first to

external laws and rules to understand how to take care of themselves. We do not necessary first look into knowing our true self and our true desires; instead, we look to perhaps scripture or established ways of knowing about the world in order to take care of ourselves. This second principle has encouraged us to look to something external as guidance for how to take care of ourselves and our needs. Foucault (1988) explains that this is because *taking care of oneself is a networked practice*: it is a widespread activity involving a network of obligations (p. 27).

Alongside the Christian tradition, the self and the soul were often conflated, so to take care of oneself could mean that an individual had to commit their time and engagements to services, the community, the church, their devotion, and other activities connected to tending to the soul. An individual would need to tend to this network to take care of the self. For example, in the Christian confession, Foucault explains that an individual memorizes rules or laws to discover their sins. In this “sin,” the subject doesn’t forget his desires or affinities; in sinning, the individual forgets the rules of conduct and what he ought to do (p. 34). To this effect, Foucault argues that the technologies of the self position the subject at “the intersection between acts which have to be regulated and rules for what ought to be done” (p. 34).

For forced migrants at the intersections of the border, they are faced with the need for entry and the rules for border crossing—and some attune accordingly through “illegal migrations,” which I will discuss later on. For this reason, we have seen a variety of border crossing practices. In the face of heavy border patrolling on land and within the U.S.’ territorial waters, forced migrants coming from Haiti have had to attune to a different set of circumstances by innovating on different routes that avoid the U.S. territorial waters—especially now that the Temporary Protected Status has ended for them. Some Haitian forced migrants have attempted to reach the U.S. through the Bahamas by appropriating their routes to use the nearby Turks and

Caicos where they are more likely to have visa permissions to enter (Goodhue, 2019). However, for them, the journey on water and through multiple territories continues to be dangerous regardless of routes.²⁸ Or, in a different scenario, in the face of fences, border check points, and heavy border patrolling, tunnels have recently been discovered (Carranza, 2019; Cullinane, 2017; Soboroff, 2019). Although tunnels that travel below the border of the U.S. and Mexico have been around for drug trafficking purposes (Ramsey, 2011), tunnels have diffused as a technology and others have developed it into a method of mobility through the border. These attunements, regardless of their “success rate,” are technologies of the self—they are ways that forced migrants appropriate technologies to condition mobile agency in the face of their unique situations and media environments.

Misconduct as an innovation in the technologies of the self

Counter-conduct is a concept that comes out of Foucault’s (1977) *Security, Territory, Population*, and it is often associated to the idea of resistance and has been viewed as a practice of subject formation and the technologies of the self. But, I argue that counter-conduct (as resistance) is still part of the code of conduct. Counter-conduct is still within the field of possibilities that is structured for an individual. So, by this measure, counter-conducts are always a part of the same government as conducts. Therefore, I make a case of the idea of misconduct instead of counter-conduct.

²⁸ As discussed in Chapter 2, there have been recent reports of deaths and drownings.

According to Foucault, governmentality relies on the fact that individuals accept being conducted as in the individual is free to choose to be governed or not to be governed. This means, to conduct or to govern someone involves structuring their freedom and the field of their possible actions and reactions (Lorenzini, 2016). For example, to conduct heterosexuality, sexual relations are structured so that the possibilities of sexual conduct are either heterosexuality or homosexuality. In this situation, if an individual engages in homosexual conduct, although they are defying the preferred norms of sexual conduct, they are actually still following the script of possible actions and reactions by limiting themselves to the binary options of heterosexuality or homosexuality. But, if queerness is considered in this situation, queerness is a misconduct—it is an innovation on the binary script of heterosexuality and homosexuality. Queer conduct edges on both kinds of conduct and neither and involves new and unpredictable ways of being a sexual subject (Butler, 1990, 1997). Moreover, the intention behind Foucault's (1977) idea of counter-conduct, after all, is "the will to not be governed." For this reason, I suggest using the language of misconduct to refer to the will not to be governed. For instance, during a border crossing, migrants are conducted as either legal or illegal. Structured by the governmentality of border regimes, forced migrants either engage in proper conduct by showing paperwork or applying for asylum in the appropriate manner; or, they engage in counter-conduct by not having proper paperwork or performing the proper applications. However, through misconduct, forced migrants reject the will to be governed by border regimes. As a result, they innovate on technologies, abstract and concrete, to engage in misconduct, behaviors that are not already articulated as possible ways of being conducted. To this end, I connect Foucault's concept of the technologies of the self as innovations in conduct to the diffusion and innovation studies in the field of communications.

An overview of diffusion and innovation studies in relation to adoption

Prior to Rogers' (1962) *Diffusion and Innovations*, studies on the diffusion of technology into societies mainly focused on the consequences of technology. These studies often took on technodeterministic views about how technologies determine the development of social structures and cultural values without accounting for the users' role in the spread of technologies. Additionally, most of the diffusion studies only occurred in the United States and Europe, which indicated that earlier diffusion studies inevitably took on characteristics of the progress narrative that assumes that only developed countries would be associated with the development and diffusion of new technologies (p. xvi). Rogers studied the process of technological diffusions into mainly rural communities and explored the role of communications in facilitating the diffusions. His book was the result of an eight yearlong study that tried to understand diffusion as a process—not as a result or as a thing that can be observed. In line with the processual turn in border studies and many of the social sciences, the diffusion of technology experiences a similar processual turn. After the publication of Roger's work, trends in diffusion studies shifted away from technodeterminisms and consequences, and Roger's research trend was adopted and conducted on “developing nations” such as Latin America, Africa, and Asia (p. xvi). Eventually, this research trend found its way into studies that explored the diffusion of technologies in the workplace or in organizations (p. xvi). This section describes how this research trend has been deployed in the study of ICTs (information communication technologies) and in the study of mobile phones.

The diffusion of technology as a process in the field of communications

Diffusion studies have been conducted in multiple disciplines. It wasn't until the 1960s that communication researchers began to investigate the transmission of technological ideas (Rogers, 1962, p. 73). These types of studies focused mainly on communication's role in the diffusion of technologies and how communications contribute to each of the eight types of issues. For example, in the study on corn seed technology in a rural agricultural community, Rogers examined how users communicated about the new technology itself; how they discussed its benefits, whose opinions the community trusted about the new technology; where users learned about the new technology; what happened when they adopted the new technology; and overall, the rate the farmers adopted the new seed technology over time.

Instead of focusing only on the social consequences of innovation, Rogers (1962) places the adopters (the users) and the innovations that were adopted (technologies) into a broader cultural framework to understand what the agents and the aspirations for users within an environment are to adopt technological changes. Understanding diffusion and innovation as a process has since been a central framework in subsequent studies that explore the social aspects needed for innovative ideas (Degele, 1997; Mackay & Gillespie, 1992; Perry-Smith & Shalley, 2003) and or the communication necessary for the spread and use of technologies (Anderson et al., 2014; Brennan & Dooley, 2005; de Souza e Silva & Xiong-Gum, forthcoming). As you can begin to see, diffusion studies is a good area to begin inquiries into how digital media and digital connectivity, as innovations, are adopted by forced migrants and how this innovation spreads among migrant groups. Although researchers have articulated that communication is a human right for forced migrants (d'Arcy, 1977; Leurs, 2017; UNESCO, 1985), researchers have not yet conceptualized diffusion or use as a communication in terms of forced migrant rights. I attempt

to do this in the following discussion about creative appropriations and spatial appropriations for hybrid mobile capabilities.

Diffusion is a special type of communication and not all innovations are “new”

Rogers (1962) argues that diffusion is a special type of communication. Diffusion spreads messages that are new ideas, which he later defines are innovations. In fact, the performance of using and later adopting new technologies is a form of communication that communicates to others in the community about the minimum literacies needed (the minimum know-how) and the values-added through use and adoption. For example, when a person observes another person using a new device such as a PDA (Personal Digital Assistant), they learn how to operate it in a general way. When this person actually uses PDA, they learn about the device’ functions and capabilities, if they had not already been given directions or a tutorial on how to use the new device. As such, Rogers defines diffusion as a process in which:

...an innovation is communicated through certain channels over time among the members of a social system. It is a special type of communication, in that the messages are concerned with new ideas (p. 5).

This definition is also Roger’s formula for the four elements of diffusion: innovation, communication, communication channels, time, and a social system (p. 11). Following this, Rogers defines innovation as,

...and idea, practice, or object that is perceived as new by an individual or other unit of adoption. It matters little, so far as human behavior is concerned, whether or not an idea is “objectively” new as measured by the lapse of time since its first use or discovery. The

perceived newness of the idea for the individual determines his or her reaction to it. If the idea seems new to the individual, it is an innovation (p. 11).

This definition builds relationality into Roger's framework. Innovation is new, but its newness can be relative to the social relations that it is being embedded. Thus, an innovation is something that is introduced into the environment, while diffusion is the communications that surround this new introduction. In relation to forced migrants and digital media, this definition of innovation as something that is introduced into a social system re-articulates the divide between 2Gs and smartphones and allows my study to treat digital media as relatively new regardless of how these technologies have been globally marked in terms of the "latest technology." This matters in that to fully understand the implications of forced migrants' digital media uses during migration, it's important to not only focus on the latest smartphone and its affordances. In the previous chapter, I have discussed how even books as mobile media have the capability to re-arrange spatial relations, and I will develop this line of thought further with my discussion on how mobile media re-spatializes power relations.

Studies on the diffusion of ICTs

In the field of communications, and in particular the field of mobile communications, diffusion studies are associated with studies of technology appropriation, or how new technologies are being used. As such, the trends in research shift from an analysis of rates of diffusion and channels of diffusion using methods of sociometric network research methods to trends in research that focus on the sociology of diffusion including understanding the social choices in technology adoption (Dourish, 2003; Isaac et al., 2006), social situations that give way to choices in technology use (Aricat & Ling, 2018; Salovaara et al., 2011; Wirth et al., 2008),

and the social and political choices in technology use (Bar, 2008; Bar et al., 2016; de Souza e Silva et al., 2011, 2017). The current latter trends in diffusion studies research in this area are concerned with power relationships between designers and users of technology and how these power relationships configure social relationships. Earlier studies did not focus on how diffusions of innovations in themselves reconfigure social networks. As such, appropriations studies and subsequently creative appropriations in the field of mobile communications builds on the literature in diffusion and innovation studies but focuses on how the diffusion of innovations reconfigure users' relationships with technology and, as an outcome, user's relationships with power.

Studies on the diffusion of mobile phones

The Theory of Diffusion of Innovations (TDI) and the Technology Acceptance Model (TAM) were initial studies on how knowledge about new technologies was communicated through the diffusion of technologies in society. TDI was used to understand the adoption of information communication technologies (ICTs) within organizations over time. Meanwhile, TAM was developed to understand people's perceptions about adopting ICTs (Davis, 1989). This model tried to identify predictors of adoption and diffusion. However, these models did not extend to dynamic group settings outside of organizations, and they did not take into consideration the mobile lives of users. In fact, many of the earlier studies treated users as stationary points on a network. For instance, when sociometric analysis were conducted on a community of users, users A, B, C and so on remained in the same locations on the network diagram. This implies that the diffusion or communications moved through the users and moved through the network. In turn, this treats users as stationary configurations, while treating the

communications about technology use as ultra-mobile throughout the network, when in fact, the communication needs the mobility of its users to spread. Besides this major issue, earlier studies also assumed that adoption or use of technology was a top-down or linear process (Isaac et al., 2006). As a result, researchers paired the TDI with the Theory of Planned Behavior (TPB) and the Unified Theory of Acceptance (UTA) to account for the external and internal factors that influence individuals' behaviors such as perceived benefits and portrayal of social identity (Ajzen, 1985; Venkatesh, Morris, Davis, & Davis, 2003), but these efforts still did not take into account the mobility of users. Furthermore, TDI and TAM's micro-level approaches, which focused on individuals, were not enough to understand adoption within varying social contexts that include, for example, mobile technology use (Isaac et al., 2006). Yet, these approaches still overlooked issues of power associated with access to infrastructures, devices, literacies necessary, and differential mobilities of users within the same community.

A convergence of adoption and appropriation studies

To start, a common characteristic among all earlier diffusion and innovation studies were adoption models that focused on the binary structure of a user's behavior in terms of their acceptance or rejection of using the new technology (Wirth et al., 2008, p. 599). However, researchers found that a user's behavior and their relationship with a new technology is not based on acceptance or rejection of the technology itself, but that the behavior (the acceptance or rejection of the technology) is a communication about the various ways that a technology can be used (Rogers, 1962; Wirth et al., 2008, p. 599). From this insight, there was a need to differentiate and better understand the behaviors of users based on the different kinds of ways users use (or behave) with technologies. As such, there was a convergence of adoption studies

(that focused on why users decided to adopt or use a technology) and appropriation studies (how users decided to use a technology). The results brought on appropriation models that tried to account for social relations and power relations as a driving force behind the “why” and the “how” of technology use.

Integrating earlier diffusion models and implications about behavior

Early diffusion studies examined how communications about new technologies spread into social systems. Adoption studies, an extension of diffusion studies, examined the users’ choices in accepting new technologies. For example, Jackson et al. (2010) surveyed hundreds of residents and faculty physicians about their choice in using the Personal Digital Assistant (PDA) during their routine visits. The study found that users who began using PDAs did so because they believed it was innovative to do so. This choice was not related to the PDA’s functions, only the social status that came with using the new device. However, more recent studies focus on appropriation, instead of adoption, to examine the role technology might have in the users’ life. For example, Degele (1997) first argued that adoption and diffusion of technologies, such as medical software, came as a result of the many tasks users could do with the software. Users were finding ways to multi-task by discovering new (unintended) uses from the software’s features. As a result, Degele argues that appropriations often occur out of unplanned uses but the appropriations are often needed to streamline medical documentation tasks. Later, Flint and Turner (2016) argued that it is the design of the technologies that invited users to explore what a technology’s features could do, so perception (such as prestige) became less of a focus. This approach, to examine users’ uses, emerged to address “...beyond the binary point of adoption, the wider question of the ways in which people implement new communication technologies

after having adopted them” (Wirth et al., 2008, p. 594). However, Wirth et al. (2008) found that the two approaches of looking at users’ uses and perceptions of users needed to be integrated to understand the fuller extent of mobile phone adoption and appropriation, because diffusion and appropriation are not independent social conditions (p. 598). Rather, diffusion and appropriation occur as attunements to lived situations. For instance, many of the more creative appropriations involve the situation surrounding gaining access to mobile phones and or internet which I discuss later through the examples of network sovereignty through the Yaqui people and the hybrid border space through the Arizona Senate Bill.

Appropriation models and implications about unpredictable uses

The integrative model of Mobile Phone Appropriation (MPA) integrated diffusion and appropriation studies to account for the multi-dimensional factors in mobile phone use. They argue, “mobile communication can no longer be identified as a single innovation because it constitutes a bundle of rapidly evolving services and functionalities” (Wirth et al., 2008, p. 594). Due to the multi-dimensional factors of emerging communication technologies such as mobile phones and because of their many functions—for example, a mobile phone can be used for voice, text, and visual communications or it can be used to store pictures and videos—mobile phones are “...predestined to re-invention, as they commonly constitute a bundle of technological functions and services that lead to a vast variety of applications” (p. 595). For these reasons, it has become harder to predict how users will use, re-invent, and or innovate mobile phones.

Users can always find new ways to use mobile devices beyond their intended purposes, and these uses are not always prosocial—for social purposes—but these new uses are always in

the service of creating new communication services. At its most basic, mobile phones have been used as flashlights because of its hardware affordances. Or, through various applications, mobile phones can be used as a level, for those who want to construct leveled shelving but lack a toolbox level. Uses can simply emerge out of need and out of what users can do with media. For example, in 2013, a Reuter's photographer chronicled the "different uses" of the Apple iPad, which has functional similarities to the Apple iPhone, apart from its intended uses. Syrian rebels of the Free Syrian Army used the iPad to direct and fire homemade mortars into the Damascus suburb of Jobar (Choney, 2013). The Free Syrian Army is a rebel army rebelling against the Syrian government. Within this capacity, they lack the advanced military infrastructures in comparison to the government in they are opposing. Their military operations consist of appropriating existing and available resources. For this reason, Syrian rebel fighters have turned to mobile media technologies such as the iPad to supplement their military strategies. In terms of hardware, the iPhone and iPad are both equipped with an accelerometer that can measure the force of acceleration. This gives users an idea of how far a mortar will travel. The iPad's larger screen provides increased screen visibility for decision processing. In addition to this, members of the Free Syrian Army use the iPad's maps and gathered intelligence reports to locate the Syrian government's troop's positions, to ensure the accuracy of their mortar's trajectories. All judgements aside, this was a creative way to use media because it created a new communication service where one didn't exist before.

Beyond this example, users in general are surpassing media use in terms of consumption, and they are creating new ways to use media, and such creative ways have led to an examination of the *creative appropriations* of mobile media, especially by forced migrants. Beyond using mobile phones for its intended uses such as calls and the maintenance of social ties, the mobile

phone has been used as a method of identification in the absence of documents (Henley, 2016); it has been used as a digital wallet to transfer money instead of carrying it with them on their routes (Frouws et al., 2016); or, it has been used as a compass because of its locative affordances (Gillespie et al., 2016). However, many of the more creative appropriations involve the situation surrounding gaining access to mobile phones and or internet. For example, forced migrants on the Azraq Refugee Camp in Jordan have taken apart solar cells and rewired them to increase access to charging in the absence of access to electricity for charging mobile phones (Mascisaac, 2015); or, forced migrants will carry multiple pre-paid SIM cards to gain access different signal territories (Kingsley, 2019).

As previously mentioned, the Mobile Phone Appropriation model was among one of the first studies to contextualize appropriation as *re-invention* (Wirth et al., 2008). They conceptualize appropriation as “an active and creative process that ends in various usages and meaning patterns on both individual and social levels” (p. 598). Most importantly, Wirth et al. emphasize the symbolic aspect of appropriation as communicative in that the act of appropriation communicates something about the identity of the person and the identity of the technology to the person. For example, a business person’s appropriations communicate something about the person’s identity, perhaps that they are “busy,” and the device, when it is out, communicates that the person is about to be “busy.” While pragmatic and functional uses such as how the Syrian rebels have appropriated the iPad are reasonable in relation to a media’s affordances and a users’ needs, Wirth et al. bring our attention to appropriation as a status symbol (p. 600). From here, subsequent studies begin to adopt the language of creative appropriations to refer to the study of the diffusion and innovation. Subsequent studies also attempt to untangle the symbolic aspects of appropriation, particularly in relation to power.

Creative appropriations and implications about power relations

Building on previous research insights that have integrated the adoption and appropriation aspects of diffusion studies, Bar et al. (2007) identify the appropriation process as involving diffusion, adoption, and appropriation. More specifically, appropriation refers the interactions between a user and a technology. Appropriation is the change that emerges through this interaction. Instead of a focusing on symbolic uses in terms of status, Bar et al. propose that appropriations are symbolic of systems of power. Mainly, Bar et al. use technological designs to support their claims. They claim that devices are designed with intended uses in mind and thereby potentially include and exclude certain users and uses. They write,

A technology's architecture embodies power relationships between equipment makers, service providers, and users. Relationships between various stakeholders have social and economic implications—influencing, for example, what social practices a mobile phone can support ... (Bar et al., 2016, p. 618).

Bar et al. (2016) use the example of the mobile phone to illustrate their argument. By design, the mobile phone is configured to how the designers believe it should work and can be used. They describe how some users fabricate external antenna sometimes up to several meters long to boost mobile reception in remote areas (p. 631). This user interaction with mobile phones signals to a larger social inequality about the distribution of infrastructure that supports mobile communication, which was discussed in Chapter 3. Therefore, when users appropriate a device and use it in a manner other than what it has been designed for, they challenge the authority of the designer and challenge the power structure that supports the design in the first place.

In short, Bar et al. (2016) take into consideration the power dynamics that are part of the development of appropriation practices. As such, scholars have conceived of appropriation as a

negotiation of power and control over the configuration of technology use and diffusion (Bar et al., 2016; de Souza e Silva et al., 2011). Building on the asymmetries of power within communities, de Souza e Silva et al. (2011) investigate mobile phone appropriation in the favelas of Rio de Janeiro where high- and low-income populations interact to bring about unique uses of mobile media and unique needs for new communication services. de Souza e Silva et al. explain, “For most *favela* residents, procuring and owning a cell phone represents a financial, technological, and social challenge. The first barrier to owning a cell phone is financial” (p. 415). They add, “The final difficulty of cell phone procurement and ownership is the social difficulty of using one” (p. 417). Likewise, researchers who focus their work on forced migrants and mobile phone use have brought up a similar concern in that there is an assumption that everyone would have homogenized media literacies to use a mobile phone (Hayes, 2019). Although de Souza e Silva et al. describe appropriation practices that occur with the mobile phone such as “beeping,” their study actually draws more attention to the appropriations that occur with getting a phone. For example, they describe the many ways to get a cell phone, including plainly stealing them or finding them and taking them (p. 417). Specifically, they describe a situation where people are afraid to answer their phones on the streets because of the fear of being robbed, or another situation where someone might follow you to rob you of your phone because they heard your phone ringing in your pocket (p. 417). Going by Bar et al.’s definition of appropriation being the changes in interaction between users and technology, de Souza e Silva et al.’s study demonstrates that the appropriations, or the interactions between users and mobile phones, are a materialization of economic disparities. The appropriations make clear an inequality in resources. But, most importantly, these appropriations respond to the media environment. In order to creatively appropriate mobile technologies in the first place, de Souza e Silva et al.’s

(2011) study illustrates a need to first appropriate the media environment to set up the conditions for creative appropriations.

Creative appropriations and network sovereignty

From the literature on creative appropriations, Bar et al. (2016) demonstrate that the initial interaction a user has with a technology, the use itself, reveals infrastructural inequalities, or inequalities in the environment. They write, “Usage, in turn, reveals the politics embedded within a technology’s configuration, disclosing who controls what” (p. 618). Following this, de Souza e Silva et al. (2011) demonstrate that the prior interactions that a user has with technology, the process of procuring, also reveals the larger power inequalities in a community. There is a configuration of power within a technology or technological system. By this measure, creative appropriations can be used as an indicator of infrastructural and (economic) power inequalities. Thus, the argument can be made that where there are creative appropriations, there are most likely some kind of asymmetry of power or asymmetric distribution of infrastructure that supports “standard” mobile phone practices that are often associated to leisure activities or virtual mobilities (Kellerman, 2006).

Accordingly, forced migrants’ interactions with mobile media also discloses issues of power asymmetries as well as inequalities in media environments. Forced migrant’s creative appropriations implicate sociotechnical assemblages and implicates who controls what signals and which signal territories (Parks, 2013); who controls the software and technologies that represent the geographical landscape (Sheller, 2009); what are the sociotechnical assemblages that allow users to locate themselves on the network for mediated mobilities (Gordon & de Souza e Silva, 2011); and ultimately, who or what kinds of power relations support or prohibit

the mobilities and mobile communications practices that forced migrants would engage. The following example illustrates how exclusion is historically configured into the indigenous communities of the United States, a group that also belongs to the demographic of forced migrants because they have been and are internally *forcibly* displaced persons. In *Network Sovereignty*, Duarte (2017) argues that the broadband project through the United States’ “Indian Country” is layered with colonial legacies of Manifest Destiny where in the route for broadband and fiber optics follow a similar flow to that of telegraph wires and railroad tracks—all of which were designed for the mobilities of a certain kind of traffic that is not constituted in the traffic and mobilities needs of native people. For example, for the Yaqui people, a transnational indigenous community, there is no internet access because there are no previously existing or existing infrastructure such as railroads, telegraph, or main roads that would—as Nail (2016) would call it—*circulate* the junctions of flows.²⁹ The Yaqui people are situated across the borders between the United States and Mexico. Similar to Jensen’s (2013) example of the city, the center of the city is highly networked into systems of transportation, communications, and access points to further routes, and outside of the city the systems thin out.

New media infrastructures are layered over existing or previous media infrastructures. In case of the Yaqui, because, historically, indigenous lands did not have preexisting communication and mobility infrastructures, internet development suffered. Areas where there

²⁹ From *Theory of the Border*, Nail argues that there are circulations, junctions, and flows. Another way to interpret this is that flows are made of up the things that are in motion. The trajectory of these flows brings out junctions that give a pattern or a trajectory to the flows of things. Junctions that then gain a path or pattern to their movements make up a circulation. Within this circulation, a system of things is in motion along a similar path or trajectory, and at times, the sake of the circulation depends on the sum parts of the systems involved.

were existing infrastructures, indigenous people were displaced from or pushed out. Duarte (2017) writes, “We do not just infer the existence of exclusion; we suffer from it...” (p. 15). Those who leave the community and return experience lapses in flows of information because the internet does not always work in the community. However, through organization such as the TDVnet of Southern California, Red Spectrum Communications of the Coeur d’Alene, the Lakota Network of the Cheyenne River Sioux Tribe, and the Navajo Nation Tribal Utility Authority and Regulatory Commission, indigenous communities were able to lay cables, set up routers, construct towers, and cultivate the essentials for garnering reliable internet access (Duarte, 2017). The community appropriated the space in order to reconfigure their power relations.

By appropriating the technological configuration of the landscape through developing network infrastructures across tribal lands, Duarte reports that tribal people have been able to assert their agency. Through hashtags such as #IdleNoMore (2012), users from tribal communities were about to develop one of the largest indigenous mass movements to protect indigenous lands and waters across multiple territories. As a result of the changing infrastructure of the landscape, tribal communities were able to appropriate social media networks to organize flash mobs, prayer rallies, and marches, which has given way to more specific hashtag movements such as #NoDPL (2016), a specific response to the Dakota Access Pipeline. In this example, users have gone beyond simply adopting technologies such as the internet; rather, they have appropriated the internet assemblage, especially social media and hashtags. Additionally, indigenous communities have embedded the internet assemblage within their landscape (while paying respect to the sacredness of the land) and embedded these technologies into their social, and political practices as clearly evidenced by the popularity of both hashtags. In line with what

the literature on diffusion and innovation has suggested, as communities experience the diffusion of technologies and innovate or appropriate them accordingly to their community needs, they, in turn, also experience a redistribution of power. The Yaqui have not only increased their communication channels and services, but they are able to communicate about their identities and to communicate their civic needs such as protecting the land and water that is controlled through multiple border regimes.

From this example of developing the internet infrastructure on indigenous land and in addition to the literature on creative appropriations, it can be argued that *creative appropriation is also about the reconfiguration of physical space*. Duarte's (2017) analysis of the internet development on indigenous land is similar to de Souza e Silva et al.'s (2011) insight on the residents of the favelas' effort to procure the necessary media conditions to make creative appropriations possible. This is because creative appropriation is a rhetorical attunement that responds to the environment and not only one aspect of the environment. The media environment, like any other technology, is designed for certain possibilities of action and conduct (Allen, 2006; Jensen, 2013; Rickert, 2013). Additionally, I want to connect back to Rogers' (1962) original claim—which seems to have been lost in the convergence of adoption and appropriation studies—that the diffusion is a unique communication practice. However, I add that innovation and, thus, appropriations is also a unique communication practice that communicates about the changes that are necessary in a social system to bring about a more just distribution of power (the capacity to produce networked effects such as consequences and affordances) and agency (capabilities).

To procure and to interact with the internet as a technology, indigenous communities had to first build the infrastructure for the internet by interacting with the land, with the environment.

Thus, they had to appropriate space by evoking the technologies of the self. Duarte (2017) explains that if it were up to the telecommunication companies to develop this infrastructure on indigenous land, the developments would occur in relation to the telecommunication companies' interests. Through the technologies of the self, by understanding the community's desired outcomes, they were able to interact with technology in an appropriate manner for them. This appropriation of the land to procure the infrastructure to interact with the technology of the internet communicates what needed to change for a more just distribution of power and agency for this particular community of users.

Creative Appropriations and the redistribution of power

According to the Oxford English Dictionary, appropriation in the verb form, appropriate is mainly defined in relation to making something a property of yours or to devote, set apart, or assign to a special purpose or use. An archaic definition is to make or to select something suitable, and an obsolete definition of it means "to make proper." It is in these definitions of the verb appropriate that I find connections to Foucault's *technologies of the self* and connections to the environment or media ecologies in that appropriations refers to an *attunement* or an understanding of your position and knowing how to interact with and within the relations that have relational effects on you. For instance, in the absence of enough charging stations and the infrastructure to deliver electricity to a makeshift neighborhood, forced migrants on the Azraq Refugee Camp in Jordan have rewired existing solar cells to construct rooftop solar panels to increase access to charging (Mascisaac, 2015). In doing so, they are attuning to the situation at hand, and they are communicating about the situation at hand and what needed to change, which can be taken as there are not enough solar charging stations. This aligns with how researchers

have used creative appropriations in terms of to make something one's own (Bar et al., 2007; de Souza e Silva et al., 2011) and this adds to the idea that to make something one's own requires an innovation of technologies of the self to *make something possible for one's own self*. Through creative appropriations, forced migrants, in a sense, redesign technologies that make their necessary actions possible.

Appropriation is a dynamic and a material-discursive formation

The conceptualization that appropriation is dynamic speaks to mobilities scholars who understand that even in seemingly static situations, there are mobilities that enable stillness. Dynamic appropriation was conceptualized in relation to space—not as territory or property, but as the active (re)configuration of relationships and relative distances. Morioka (2007) explains that the term appropriate is derived from the word “proper,” from *proprium*, which means “the original and the essential part of a person.” This preterm is concerned with the core sense of identity, of knowing something through the relationship with things. In the context of a psychologist who wanted to understand how people conduct themselves within the physical space of a house to make a proper home or a sense of home, Morioka defines appropriation as:

...constituted by the strong sense of space associated with images which are charged with many figures and interpersonal exchanges. We can realize the personalization of the place by working through our space, which follows a complex course of creating distance from and attachment to each other. The appropriation of space includes the traces arrived at through the history of relationships. (p. 191)

The first portion of this quote refers to the material-discursive formation of objects from Chapter 1. The images contain in them agential relations to past and present phenomenon and to material

and discursive phenomenon as a result of *intra-actions* (Barad, 2003). More so, these images (or things) are vibrant matter and become part of the ecology (Bennett, 2010), and they emanate with their own power, or, rather, agencies, to compose the field of possibilities. This field of possibilities is the infrastructure of ambient power relations. For example, in a house, the things that we both can experience materially such as objects, trinkets, souvenirs, favorite items and so on, and the things we know either through memory or remembering, discursively, come together or materialize into the personalization of a place. The objects in the house are material-discursive formations, they are there through their material presence, but, moreover, their material presences are possible because of the connections we foster with them. For this reason, in a house, we use the distance (or, rather, the connections) between us and among us and things to garner power—through being able to make someone feel like they belong or don't belong in the house. Belongingness to a place or a spatial configuration, for example, is an ambient rhetoric (Allen, 2006, 2011; Rickert, 2013): it is something that is imparted on you through the appropriations of space, and this changes with respect to new configurations of relations. Spaces or environments are technologies that are designed to produce a field of possible actions.

Therefore, the creative appropriations of spaces and technologies are a method of re-distributing power. In doing so, the field of possible actions are re-arranged to stage for new possibilities of what can be done and what a forced migrant can do. As such, creative appropriations sometimes materialize as misconducts, but they, nonetheless, are instances of forced migrants using the technologies of the self. They are instances of forced migrants attuning to the situation at hand with all the possible technologies at hand—and this includes changing the configurations of existing technologies to make this possible. For instance, signal territories limit mobilities in exchange for the use of WiFi or cellular signals. For instance, migrants are

increasingly altering their routes to pass through WiFi spots or to carry with them multiple pre-paid SIM cards as *misconducts*. Where they can, they appropriate space and technologies through where they can locate themselves and the kinds device appropriations they can make. Even if it is as simple as waiting for the signal to (re)cast. Reporters have noted that WiFi is so important that even a riot among refugees at the Diavata Camp in Greece stopped so that the WiFi technician could fix the WiFi (Kane, 2016). The United Nations High Commissioner for Refugees (UNCHR) has recently stressed the importance of internet connectivity. For example, the only way for refugees in sometimes very remote camps to contact or book appointments with asylum offices are through Skype, and the average stay in a refugee camp (globally) is around 17 years (Kane, 2016). This means, WiFi is exceptionally important for refugees who can't afford a data plan in order to connect with asylum processing authorities as well as distant members of their former communities.

Spaces can be appropriated in an endless array, but how a space is materialized always involves both the material and the discursive; or, in the situations of forced migrants, it involves concrete and abstract technologies. As such, creative appropriations are not new creations, but they are innovations in new possibilities for conducting the self in relation to technologies.

The border hybrid space as a contact zone of creative appropriation

In addition to this, the arrangement of things in a given space appropriates a space, makes it into a different kind of space that communicates a reconfigured dynamic. I'll discuss this through the examples of the refugee camp environment and the refugee selfie to demonstrate how environments are a contact zone for the emergence of creative appropriations of technologies through the needle and thread and the selfie. Spaces have a structure and meaning

to them (Dourish & Bell, 2007). Just as the objects in the house are material-discursive formations, the organization of space itself is composed of material-discursive formations: materials and knowledge as technologies. Together, there is a mutually constitutive relationship between collective understandings of spaces and the practices and activities that are carried out in them (Dourish & Bell, 2007, p. 6). For instance, within the space of a house, there are divisions of space into rooms with further organized locations that are designated for different modes of being and movements. These divisions create spaces of expulsion. The bedroom is organized for particular members and activities, and the arrangement of its things are significantly different than another room such as the living room. Between these two spaces, bodies are prescribed appropriate conducts and mobilities: a bed for laying down or a chair for sitting up. The bed and chair are material objects, but users impart discursivity through ways of knowing and doing on to them so that the practices of laying down or sitting down become normalized conduct.

Therefore, different spaces exhibit different infrastructures and practices that shape the experience of space as well as the appropriateness of behaviors in a given space (Dourish & Bell, 2007). For instance, the border space structures the possible behaviors of forced migrants, and for the sake of the following examples, spaces structure who experiences expulsion and what are their possible behaviors. When forced migrants engage in “proper conduct” (as moving their bodies through the proper checkpoints and complying with the proper procedures), they are allowed to pass or seek asylum. However, when these options are not possible, forced migrants have engaged in creative appropriations as a technology of the self. They start from the self or the most local context and appropriate the technologies within that contact zone. From an example earlier, tunnels below the border of the U.S. and Mexico have been around for drug

trafficking purposes (Ramsey, 2011), but these tunnels have diffused as a technology and others have developed it into a method of mobility through the border. Or, more drastically, Australia's former detention camp, the Woomera Detention Centre, is known to be Australia's most notorious detention center because of riots, escape attempts, abuse, and detainee self-harm. In this camp, the technologies of the self come in the form of creatively appropriating the genre of the hunger strike. Forced migrants took on creative (and poignant) ways to communicate within the means of their location. Woomera was located in the southern region of Australia. Its perimeter was enclosed by razor wire. Although it was designed to house 400 asylum-seekers, it ended up housing almost 1,500 asylum seekers (Wolfram Cox & Minahan, 2004). Despite riots and protests, those waiting in Woomera for the asylum decisions were not about to obtain any political representation or attention. In 2002, when the government temporarily stopped processing claims by Afghan nationals, 189 people took part in a hunger strike that involved 62 of them sewing their lips shut with needle and thread (Wolfram Cox & Minahan, 2004, p. 293). This was a situated response that attuned to Woomera's spatial design of expulsion from the greater Australian social space. Cut off from the world and cut off from their rights to the asylum process, their actions were symbolic and strategic in that it represented their silenced political voices and it prevented forced feeding. Asylum-seekers found a new way and a new situation to use needle and thread. When the press caught on, the public became aware in uncanny ways. It was uncanny to see human lips sewn like fabric; it was uncanny to see human lips sewn shut like mending an open wound; and it was abhorrent to see such a misuse of needle and thread. In doing so, the public became subjectivized by the new ways of using the needle and thread. The technologies of the self are about creating new relations of power that are staged by the

immediate environment. In this case, the needle and thread as materialized in the sewn mouths of asylum-seekers became a source of power against political injustices and physical isolation.

The needle and thread become part of the technologies of the self that are appropriated for forced migrant environments. For example, in 2015, Kurdish and Iranian refugees sewed their lips shut after being denied passage through at the Greek-Macedonian border (Bargu, 2017). In 2016, five refugees in Calais, France sewed their lips shut and held placards to bring attention to their living conditions and to demand a stop to the use of tear gas and borders (Bargu, 2017). Engaging in radical practices of the self, these and similar hunger strike protests have challenged power relations, engendering the *silent exception* by violently embodying their political silence and social expulsion. But in other situations, forced migrants appropriate the technologies that are in their hands.

On a very different note that is connected to the issue of silence, forced migrants have also appropriated mobile phones and the camera's eyes for instances of *digital witnessing*, allowing the public to see real life events unfolding online (Chouliaraki, 2015). The selfie, which has been normalized by Instagram and other social media users, subjects viewers to a sense of admiration and awe at the life of the person taking the selfie. On the other hand, the "refugee selfie," popularized by Syrian refugees, makes use of the mobile phone that some forced migrants are traveling with (Chouliaraki, 2016, 2017; Risam, 2018), and it subjects the viewers to a similar yet uncanny feeling of admiration and awe. It is uncanny to see numerous migrants unload from a small life raft; and it is uncanny to see them posing like colonial era explorers arriving at the new land. The genre of the selfie is appropriated as a *counter*-method of digital storytelling that communicates to audiences the journey and the locations that Syrian refugees have made it to. Where news coverage for migrants and about migrants is sparse, this serves as a

voice for them. The refugee selfie is later appropriated from use as humble bragging to a clear statement about the international community's responsibility to forced migrants.

In 2015, a photo depicted a dark-haired toddler wearing a bright red t-shirt washed up on a beach, lying face down on a beach not too far from Turkey's resort town, Bodrum (Smith, 2015). The photo gained social media popularity. The boy who was three years old and his brother who was five years old fled with their family from the violence in their hometown Kobani, Syria where Islamic state insurgents and Kurdish forces were fighting heavily. The photo was appropriated for news reports and the creation of memes. In this case, the use of the photograph, is an example of an appropriation that stems from the technologies of the self. Unlike the humble bragging of the refugee selfie, the photo of Alan Kurdi disrupts the power dynamics established by the selfie and the viewer of the selfie. The photo re-arranges power relations and subjectivates the audience to a new way of seeing and knowing about the struggle that forced migrants (in this case, specifically boat migrants) face during migration. Kurdi's young body materializes the mobility injustice forced migrants face.

In connection to the concepts of governmentality (Foucault, 1980), governmobilities (Bærenholdt, 2013), and staging mobilities (Jensen, 2013), spatial arrangements are deeply connected to what a subject can do in terms of "normal" conduct and mobilities. For example, border spaces communicate stoppage (Flores, 2019) through the presence of fences, sensors, aircrafts, and the knowledge and practices surrounding border crossings. Without the criteria to pass properly, the infrastructure of bordering technologies is designed to change the space in order to discipline a person's mobility within the border space. Under the direction of the Department of Homeland Security, border patrol agents are authorized to use commercially available location data to locate cellular data activity with the designed intention of preventing

“illegal” persons from passing through the border where upon they could apply for asylum or what not (Kaplan, 2018). This may be one of the reasons why researchers have reported that cellphones at the U.S. Mexico border can actually be harmful for forced migrants (Newell et al., 2016). Nonetheless, within the border scape the arrangement of the space communicates the logics of exclusion (Allen, 2006, p. 442). Bordering technologies are put in place to communicate to forced migrants that they are about to enter a space in which they will have to prove themselves, prove that they can pass through, and or prove that they qualify for asylum. In turn, bordering technologies are arranged—like furniture, so to speak—to communicate that it is a public examination space, a public space that has been appropriated as a biopolitical space of governmentality over mobilities and the right to conduct life in a given space.

As a function of ambient power, the arrangement and re-arrangement of checkpoints, identification checks, and other technologies is an act of creative spatial appropriation to constitute “a strong sense of space” (Morioka, 2007). In 2010 in the U.S., Arizona passed the Senate Bill 1070, which allowed law enforcement to ask for the papers of people suspected of being in the country illegally. This was originally known as the “Support Our Law Enforcement and Safe Neighborhoods Act,” later vernacularly called the “Show Me Your Papers” law that contained a series of anti-immigration measures, as one reporter from Phoenix summarizes it:

The law centered around four provisions: It allowed police to ask for immigration papers of a person stopped for other reasons besides immigration violations or arrest a person without a warrant if they believed they’d committed a deportable offense. It also made it a state crime [in Arizona] for legal immigrants to fail to carry registration papers, and for people who were undocumented to solicit work (Critchfield, 2020).

In short, the Arizona Senate Bill 1070³⁰ was a creative appropriation of space to extend the reach of the border's checkpoint. It was a way for municipal police to stop and detain someone based on the suspicion that they might be undocumented (Schwartz, 2016). Researchers have argued that everyday bordering practices such as the checking of identification or paperwork constructs a hostile environment by relying on community engagement to submit intelligence and information on each other (Yuval-Davis et al., 2019). The Arizona Senate Bill 1070 was designed to give municipal and state police officers similar authorities to that of border patrol agents who are enforcing federal immigration laws. However, most importantly, it reconfigures public space through the strategic placement of random searches, or random checkpoints beyond the border space, based on biopolitical profiling. The ambient power of the border checkpoint is felt throughout Arizona as a result of spatial appropriations.

Through the diffusion and innovations in the placement and embeddedness of technologies, the border space becomes a governmentalized appropriation of public space that communicated its need to regulate undesirable mobilities and to unjustly distribute the networked effects of its power. It is heavily controlled, is only open for some, and is self-regulating through an assemblage of people, technologies, and laws. It sorts and categorizes who can and can't pass through. It serves one specific purpose, which is to categorize territories and persons. In this

³⁰ The Arizona Senate Bill 1070 since its inception has been met with strong opposing views. In 2010, it was proposed as one of the broadest and most strict anti-illegal immigration measures to be passed in the United States. However, its legal constitutionality and compliance with civil rights has been challenged by the U.S. Department of Justice. In 2016, an agreement was reached to clarify that state and local authorities have limited power to enforce federal immigration laws (Chappell, 2016; Schwartz, 2016). Officers were no longer able to prolong traffic stops in order to check on immigration status.

manner, the border space is an appropriation of space—taking space and reconfiguring it to meet the needs of the sources of power. It is appropriated by reconfiguring the design of the space through embedded technologies and appropriated for desired mobilities, which is all possible through mobile media. Although, governmobilities refers to how powerful mobilities become governing principles, governmobility also refers to the situation where the regulation of mobilities are internalized in everyday mobility practices (Bærenholdt, 2013, p. 29). Such is the case for the Arizona Senate Bill 1070, wherein the regulation of transborder mobilities is internalized by local and state police and institutionalized into the “routine traffic stop.” Furthermore, the Arizona Senate Bill 1070, mobilizes mobilities by staging mobile police units as regular fixtures in Arizona’s spatial design. Bærenholdt explains,

Borrowing Urry’s ideas (2007), governmobility works through bodily, technological, and institutional forms of self-government, which are enacted relationally and embedded in systems. Rather than through subjects, governmobility works through objects and relations in an area where the Internet, mobile phones and very many other information and communication technologies are embedded everywhere. Thus, governmobility means ruling through connections—mobilizing mobilities. (p. 29)

In the situation of Arizona Senate Bill 1070, the border mobility regime appropriates public space by soliciting a sociotechnical assemblage of the local and state police and databases that store and make retrievable the legal or illegal mobilities of a person such as immigration status or driving record. By this measure, the border mobility regime appropriates hybrid space—it appropriates the public space of the city and it appropriates the digital space of the database. Its appropriations of hybrid space enable governmobilities function through and be constituted in both the material infrastructures that enable mobilities such as roads (where many of the stops do

take place) and in the digital infrastructures that enable the flows of information (about one's immigration and driving record). The appropriation of hybrid space constructs a plane of composition where a thing, such as the border mobility regime, can always re-create, re-invent, or re-compose itself. It never acts alone, so it has many parts to re-arrange and has the ability to enact its force through how things are arranged or configured in relation to each other. But, most importantly, creative appropriations involve hybrid space as a contact zone of distributing resources and capabilities.

Mobile technologies and the creative appropriation of hybrid space

Apart from talking about the creative appropriations of mobile technologies such as the mobile phone and mobile bordering technologies, I want to emphasize how mobile media is used (and not used) to appropriate space, particularly hybrid space. Hybrid spaces are engendered by mobile technologies and co-present users (de Souza e Silva, 2006). In situations involving bordering technologies, hybrid space can extend the networked effects of bordering regimes. Just as humans can engage in virtual mobilities—movement through space as an abstract form, bordering technologies that are networked can also engage in virtual mobilities, moving through databases such as Eurodac to cull biological information about forced migrants. Bordering regimes can move through digital space without having to move. In this respect, hybrid space complicates the distribution of power. As it enhances forced migrant agencies, it also enhances border regime agencies as well. For instance, the hybrid space evoked by bordering technologies is a location that is not only filled with material sensors, it is also filled with knowledge as technologies that are materialized into the structure and meaning of the space. For this reason, some forced migrants have chosen not to interact with digital media during their journey.

Because hybrid space relies on co-present users, forced migrants en route to the U.S. Mexico border have creatively appropriated their mobile phones to appropriate the media environment by simply not using them (Newell et al., 2016).

Mobile media use, which implies the appropriation of physical and digital space, is a materialization of the creative appropriations of forced migrants. The choice to not use mobile technologies severs the networked communications, and, thus, spatial reach of bordering technologies. Thus, the choice to use mobile technologies responds to the media environment at hand. In situations where there is no infrastructure for networked communications and mobile media use, there are appropriations to the media environment to enable access. This can be seen in examples of forced migrants appropriating solar cells to create solar panels for charging mobile devices. In situations where there is the infrastructure, forced migrants have appropriated accordingly. Some studies have described how forced migrants creatively appropriated pseudonyms or avatars to protect their virtual mobilities (Rianne Dekker et al., 2018; Gillespie et al., 2016; Mancini et al., 2019a). These examples can be extended to situations involving kinopolitical infrastructures, such as the example of engaging in different routes or the use of water vessels and tunnels. Forced migrant use technologies to attune to the situation, but their situations are always implicated in hybrid space. Although some choose not to use mobile media or are simply not able to use mobile media, this does not mean that mobile media is not being used on them through bordering technologies. Therefore, hybrid space is always implicated in the lives of forced migrants, and the nature of their agency is always distributed in hybrid space. Their possible conducts are designed into bordering technologies, and their possible misconducts are contingent on the designs and innovations of physical spaces and digital spaces.

Conclusion

To this end, I argue that creative appropriations involves hybrid space—it involves physical and digital spaces. It also involves technologies that are abstract and concrete—it involves the adoption and appropriation of the technologies of the self and the creative appropriations of devices and infrastructures. In procuring solar panels or the infrastructure for internet access, forced migrants appropriate physical spaces that make way for the creative appropriations of mobile media. This means that media environments also need to be innovated upon in order to redesign for different forms of governing conduct because media environments are imbued with power. Power is a process, much like diffusion is a process, that takes place in space, and that is reconfigured through technologies that can organize space such as mobile technologies. Through the examples discussed in this chapter, I've demonstrated that the technologies of the self refer to the ways in which forced migrants conduct themselves according to the staging of the environment, but that forced migrants also actively engage in the restaging of the environment where it is possible. Therefore, their use of technologies is always in relation to the way they can best conduct themselves in hybrid space because their subject formations are always implicated in hybrid space through the continued and ever evolving presence of bordering technologies. In this manner, creative appropriations are done so to distribute agency—to reconfigure their field of possibilities for action and for mobility to thus appropriate (or build) hybrid mobile capabilities. Moreover, I have also discussed how “illegal migration” is a misconduct, in the sense that forced migrants have used the technologies of the self to decide how they will be governed. I have compared the diffusion of “illegal migration” to the diffusion of innovations and technology to demonstrate that engaging in “illegal migration” is a communicative act that spreads larger messages about how to attune to the new technologies of kinopolitics.

Conclusion: Distributed agency in hybrid space

In this dissertation, I examined the implications of digital media use on the forced migration experience. The literature on migrant uses of smartphones was my original inspiration for this interest, but my findings demonstrate that the situation is more complex than what I originally considered. It was hopeful to see that forcibly displaced people, or forced migrants, on the move were able to use smartphones to centralize (and decentralize) information to make information available on the internet and social media more accessible to other displaced persons on the move (Alencar et al., 2018; Dekker et al., 2018). It was exciting to hear that the “smartphone was as important as water” (St. George, 2017) or that “there’s an app for that” for forced migrants wanting to find their way to Europe (Frouws et al., 2016; Horn, 2015b). Although Google developed an “official” application, *Crisis Info Hub*, specifically to aid forced migrants on their journey (Gillespie et al., 2016; Maytom, 2015), researchers found that forced migrants were appropriating mobile phone applications such as *WhatsApp*, the encrypted messenger application that Behrouz Boochani (2018) used to compose his novel *No Friend but the Mountains*, and wayfaring applications such as Google Earth to navigate through Europe. It’s not known how many people actually used Google’s application, but it was becoming clear—at least to me—that people in the forced migration situation were engaging in creative appropriations to increase their capabilities, or ability to do things. However, capabilities are distributed by sociotechnical and kinetic assemblages and cannot be attributed to any one source but can be negotiated by introducing new elements into the environment.

Summary of Theoretical Framework and Main Findings

With agency as capabilities in mind, I developed a framework that would allow me to think about power and agency in a distributed context. This framework later served as a method for understanding how agency is distributed in hybrid space—a space that enfolds local with distant informational and geographical spaces. I conclude that power materializes into the things we do and the things around us: for example, Foucault (1980) argues that power is not actually a “thing,” but it is a set of relations; power is a condition that makes things possible. As such, my main findings reflect that forced migrants’ agency materialize into what they can and can’t do. In the face of the lack of resources for surviving or in unlivable conditions, “illegal” or “irregular” migrations are a technology of the self: the choice to migrate is a rejection of existing power relations in pursuit of another way of life. For instance, *Women on the Run* (UNHCR, 2015) demonstrate that even in violent and resource-scarce environments, mobility is a technology of the self. This shows that power relations are distributed through spatial relations: migration changes spatial configurations and is one way to attune to unlivable environments. Kinopolitics, especially bordering technologies, is one way to thwart or facilitate what forced migrants can and can’t do.

From ways of knowing to the design of spaces, people develop behaviors or “proper conduct” according to the affordances of the design of things. For instance, in the space of the clinic, people conform to waiting as a custom because there is always a chair that invites the body to sit—that helps people to negotiate their place in the spatial relation of things. This “invitation” from the chair is an example of what the geographer, John Allen (2006) and the rhetorician, Thomas Rickert (2013) refer to as ambient rhetoric. While Foucault (1975) refers to this “invitation” as *discipline*, Allen and Rickert would call this a form of *soft discipline* that

lingers in the background. Beyond just human agency, physicists Karen Barad (2003) explains that all things interact with each other through the process of intra-action. With the notion that agency is a distribution of forces from Jane Bennett's (2010) concept that all things vibrate a force from them, I conclude that agency refers to a negotiation of lingering soft discipline that is distributed into lived environments.

Agency is the capability to do something, such as engage in mobilities or communications. This framework was especially useful in understanding the power relations that forced migrants engaged in when mobile media (including mobile phones and bordering technologies) was configured into their environments. Agency is an important issue in forced migration relationships because it accounts for what forced migrants can do within systems of power, such as those that condition the potential for mobilities, or other capabilities. I questioned what mobile agency is within the context of hybrid space—especially as we are increasingly interconnected through networked communication and networked spaces.

Although using different methods, other critics have similarly argued that agency is about capabilities. For instance, in *Women and Human Development*, Martha Nussbaum (2001) argues that capabilities are not about having the means to (or access to) resources. Rather, capabilities are about having the means and resources available. More recently, Mimi Sheller (2018b) argues that a person's environment plays a crucial role in the shaping of their mobile capabilities because the environments that people are embedded within are imbued with different opportunities or possibilities. With this background, I added concepts from mobilities studies such as kinopolitics (Nail, 2016), governmobilities (Bærenholdt, 2013), and mediated mobilities (Keightley & Reading, 2014) to be more specific to the forced migration experience; and I added concepts from mobile communication such as hybrid space (de Souza e Silva, 2006), adoption

and appropriation (Rogers, 1962; Wirth et al., 2008), and creative appropriation (Bar et al., 2016; de Souza e Silva et al., 2011) to give attention to the affordances and consequences of mobile media and what people can do with them. Together through the constellation of these concepts, beyond contributing this theoretical framework for understanding the distribution of agency, I developed the concept of *hybrid mobilities* that future scholars can use to understand the distribution of agency among forced migrants in hybrid space. Using this framework as a method of analysis, my main findings are as follows.

Understanding the material-discursive and distributed agency

As previously mentioned, the literature on digital migration centered agency on digital media, specifically the smartphone. I demonstrated this to be technologically deterministic; not true for many situations outside of the European context; not inclusive of bordering technologies, which are also mobile technologies that are almost always present in the migration experience; and conceptually inaccurate. I concluded that agency is a constellated performance that does not hinge on one thing. Rather, it is determined by the tension of everything that is present, from people, to mobility regimes such as borders, and to technologies like devices—or, power in the Foucauldian (1980) sense that power is a technology that can be used to produce consequences and affordances (“conditions”). Design configurations for things like devices have affordances; in addition to this, people have desires, ways of knowing and ways of doing things, or their own intentions; together, this stages the conditions for things and people to perform activities together (Chapter 1 and 4). In the most basic form this is how the material (the tangible, infrastructures, devices, bodies, etc.) and the discursive (from histories, ways of knowing, norms, meanings,

institutions like mobility regimes, etc.) come together (“intra-act”) to produce relational agencies—a kind of agency that is negotiated among all things.

For example, the iPad’s design configurations include a large view, an accelerator, and GPS-enabled applications like Google Maps. In the absence of a “sophisticated” military installation, Syrian rebels used the iPad to help locate and launch makeshift mortars at the Syrian army (Choney, 2013). In this case, the agency to launch mortars is distributed among this assemblage: the rebels, the makeshift mortars, the devices, the design of the devices (including the accelerometer and GPS), the targets, the political climate between Al-Assad’s regime and the rebel army, and so on. So, agency is distributed in this manner through the lived space that is created by the spatial relations of this assemblage. Or, in Chapter 2, I explained that capabilities such as mobilities are material-discursive in that they emerge from mobility infrastructures and everyday decisions and knowledge about mobility practices. Following Barad (2003) who explains that “discursive practices produce, rather than merely describe the subject...” (p. 819), I gave the example of the “illegal immigrant” as the materialization of the laws, bordering technologies and practices, and shared beliefs about citizenship and belonging. The material-discursive assists in distributing agency by having narratives about citizenship and belonging work in concert with the laws and institutions that practice legal bordering politics. To this effect, I demonstrated that capabilities are not a thing, but they are a process: they are a material-discursive process on multiple levels from shared beliefs to technology designs and contribute to the tensions between what a forced migrant can and cannot do.

Bordering technologies re-distribute forced migrant's mobile agential capabilities

Bordering technologies afford different migrants disproportionate agential capabilities. In Chapter 2, I demonstrated that bordering practices are not limited to just keeping people out. In fact, bordering technologies are also used to process all kind of desirable migrants through border spaces efficiently. In the U.S., the Customs and Border Patrol (CBP) offers the CBP ROAM (Reporting Offsite Arrival Mobile) application that provides an option for pleasure boaters to report their U.S. entry through their mobile devices (Department of Homeland Security, 2018). This satisfies the face-to-face requirement. This app is similar to the Mobile Passport Control (MPC) that streamlines U.S. and Canadian citizen travelers into the U.S. (Department of Homeland Security, 2019). This becomes a method of controlling the mobile capabilities of populations. Another example is the visa structures for the EB-5 program (“millionaire migrant visa”). However, beyond being able to use the mobile and technical infrastructure of the CBP’s mobile apps, millionaire migrants’ mobile capabilities are supported by legal and social systems as the system is set up so that they can purchase their way in and purchase their way towards visas and dual citizenship statuses.

Additionally, I demonstrated that many migrants know the codes of mobile conduct. In contrast to desirable migrants—although the U.S.’ East Coast corridor has experienced a significant decrease in illegal migrations since the Obama Administration terminated the “wet-foot, dry-foot” policy—Cubans and Haitians continue to dangerously attempt entry (de Diego, 2019). For example, the *Miami Herald* reported that a group of Cuban migrants landed in the Florida Keys on a makeshift boat (Goodhue, 2019). Meanwhile, many others have attempted entry by way of the Dominican Republic into the U.S. Territory of Puerto Rico. There are material-discursive elements in environments such as fences, border patrol presence, word of

mouth, histories, and so on that communicate to the codes of mobile conduct to people. This is also what causes forced migrants to find creative ways to pass through borders such as the reports that indicate the use of underground tunnels in response to border walls that have been constructed along the Tijuana-San Diego border. So, it is very much the environment that bordering occurs in that re-distributes agential capabilities. Thus, I showed that bordering technologies change how a person relates to space, how a person is subjectified in space, and how a person conducts their mobilities.

Mobile media infrastructures and environments re-distribute capability and agency

Apart from mobile media, I also discussed the larger environments in which mobile media are embedded. I argued that re-arranging the access to mobile media infrastructures within environments is another way to use (the lack of) hybrid space to produce borders. Following Gordon and de Souza e Silva (2011) who argue that, in hybrid space, the local space is not always solely physical, I used the example of the Syrian Facebook Group in Damascus to demonstrate how the experience of space (and life itself) corresponds to the existing mobile media infrastructure and environment. This group took it upon themselves to map the real-time threats of mortars falling from the sky (Brunwasser, 2015). This was to be a public warning system that many used to avoid injury, but only some people were able to access this up-to-date information. Therefore, the same people living in the same area were in a way living in different worlds. Those with access to technology had access to hybrid space and thus information pertinent to their safety, while others didn't. In addition to this, I showed that sometimes environments are controlled by governments. For instance, the Turkish service provider Türk Telekom, reportedly, blocked its users from using popular social media sites near the Syrian

border for 48 hours (Martineau, 2019). During this black out, Turkey conducted a military operation against Kurdish forces in northern Syria. The political forces involved in this environment were able to change the agential relations of the people in this area. Türk Telekom temporarily eliminated access to hybrid space. Unfortunately, I found that a similar strategy was being deployed against the Rohingya people in Burma (formerly Myanmar). In an effort to limit the capabilities of the Rohingya people, the Burmese government has issued strict SIM card bans that prevented them from accessing networked communications (Aggarwal, 2017; Beech & Nang, 2019). Critics now wonder if human rights abuses will now go unreported. Nonetheless, I demonstrate how access to mobile media infrastructures change the experiences and the agential capabilities of people who live in the same area.

Forced migrants creatively appropriate hybrid space and mobile technologies

Following Bar et al. (2016), I demonstrated that mobile media such as mobile phones and bordering technologies have different configurations of power. But, because agency is distributed, I also demonstrated that forced migrants could engage in the creative appropriations (Bar et al., 2016; de Souza e Silva et al., 2011) of technologies and of their environments to rearrange the distribution of their affordances. Following Foucault's (1988) concept of the technologies of the self that refers to how individuals refuse to be subjectivated by the rule or government of others, I argued that forced migrants decide to conduct themselves to attune to their current environments. For example, refugees at the Azraq Refugee Camp in Jordan appropriate existing solar cells to construct roof top solar panels in the absence of adequate charging stations, and because there is yet no official electricity that is wired to the camp. In this

respect, creative appropriations are a method for forced migrants to make something possible for their own self.

My contributions in relation to four central issues

To this end, I articulated four central issues that became guides for my research and that also attributed to my major findings: the technological determinism about the smartphone, the missing smartphone, the failure to conceptualize forced migration within the context of hybrid space, the need to take into consideration the spatial affordances of mobile media, and the absence of discussing mobile bordering technologies in the forced migrant experience. As such, my most significant contributions to the field of digital migrations and the related fields of mobile communication and mobilities studies includes the discussion of mobile bordering technologies and the distribution of agential capabilities that are networked through hybrid space.

The issue of technological determinism with the smartphone

Although the literature on forced migrants and smartphones was hopeful and expressed the potential that technology can have on the lives of forced migrants, with careful attention, this literature carries undertones of technological determinism by suggesting that the source of agency beams from the smartphone. Technological determinism refers to the idea that technology influences or is the initiator of social processes and social behaviors (Lievrouw, 2014). For example, Smith et al. (1994) explain that in the late twentieth-century, new technologies were viewed as both *instruments of power* and as symbols of human progress. They write,

Inspired by their contacts with the great inventions of the age, writers and artists often purposely endowed steamboats, railway locomotives, machinery, and other inanimate objects with life-like qualities in order to cultivate emotions of wonderment, awe, magic, and, at times, even dread in their audiences (p. 8).

Early on, there was a growing and popular belief that technologies had the power to shape human lives, actions, and agency. Similarly, within the field of forced digital migration, the smartphone has been lauded as a tool of empowerment and as a symbol of migration progress. However, forced migrations take place because of multiple factors that are rooted in many sources and are controlled by difference forces that cannot be addressed by the smartphone alone. For example, in October 2018 in the United States, when I began writing this dissertation, the national news media outlets such as Fox News and CNN were reporting endlessly on the so called, “Migrant Caravan.” A caravan of people who have decided to leave their home countries (mainly Guatemalans, Hondurans, and Salvadorans) was heading towards the U.S. Mexico border. They were doing so because of continued violence, a corrupt government that was highly influenced by drug cartels, and poor social and economic opportunities for the maintenance of basic human rights such as access to food, shelter, and bodily safety (Amnesty International, 2018; UNHCR, 2015). As is, there were multiple factors and sources involved in the exigence and in the duration of this “Migrant Caravan.” This means, there are also many factors that challenge forced migrants’ agency—their capability to do things.

As a response, the Mexican government, along with the UNHCR resources, doubled the size of its asylum processing team in Tapachula, nearest to the Guatemalan border (Fontanini & Romo, 2018; Rubi, 2018). But even with these efforts, the number of asylum-seekers outnumbered the asylum processing system. Here, migrant mobilities are tied up in the political

system of the asylum process. By November 2018, there were over 3,000 Central Americans in Mexico City who either were applying for or were granted refugee status (Fontanini & Romo, 2018). Although the application system was working as much as it could, the surplus of those who could not be processed continued North towards the U.S. Mexico border. This is how social and political factors also feed into migrant mobilities.

As such, I began to question how the smartphone, alone, could respond to these various factors and challenges despite the research studies and popular news reports. In those articles, the smartphone was named “a life line during flight” (Alencar et al., 2018) or the “technology will come to the rescue” forced migrants (Khalaf, 2016). Even the UNCHR hosted blogs that described how the smartphone has revolutionized refugee migration (I. Kaplan, 2018). These studies and reports only emphasized the smartphone and connected its affordances as a positive relation with regards to forced migrations. Therefore, I have addressed this issue among three chapters. In Chapter 1, I concluded that many of the affordances highlighted in these articles are, in fact, communication affordances—not technological ones. Furthermore, these articles do not speak to issues of mobilities and immobilities, or social and political issues, such as the lack of resources to procure food or digital connectivity that forced migrants might face en route (Mattelart, 2019). Apart from this, In Chapter 2, I discussed how other reports have shown that authorities have searched young migrants’ smartphones in attempts to find incriminating evidence against their asylum claims (Henley, 2016). I applied this insight to Chapter 3, to discuss how migration studies have reported that mobile phones also have consequential affordances for forced migrants, in that they actually make migrants susceptible to robberies (Newell et al., 2016). In fact, de Souza e Silva et al. (2011) concluded that users in economically depressed regions such as the favelas of Rio de Janeiro, at times, were scared to have their phone

on because of the fear of being robbed. Although some studies have addressed the consequences of using mobile phones in relation to data collection and surveillance (Latonero & Kift, 2018), it remains they overlook the consequences that occur in hybrid space such as those that involve mobile bordering technologies. Take for instance the case of the Eurodac database wherein the digital information of the forced migrant is contained in the database and on the forced migrant's finger. The database engenders hybrid space that is accessible through devices from almost anywhere where there is the infrastructure for it and through forced migrants' fingertips. Thus, to conclude that the smartphone is only a tool for empowerment overlooks the social, technical, and kinopolitical relations in which the smartphone is embedded.

The issue with context and the missing smartphones

The scholarly literature on forced migrants and smartphones is limited to a specific context—a European context—and, thus, examples for comparative analysis did not exist. More specifically, I could not find reliable mentions of smartphones among the Migrant Caravan. I wanted to know how Central American migrants were using their mobile phones to organize, navigate, and chronicle their way into the United States, but the smartphone was missing from those reports! Reports have demonstrated that smartphones are relatively cheap and easy to acquire in the Syrian context because not every smartphone is the most expensive iPhone; sometimes, they are older generations of android phones or iPhones (O'Malley, 2015). But, outside of this context, I soon realized that mobile phones, especially smartphones, exist along the so called digital divide (Sassi, 2005). In less infrastructurally developed areas such as some areas in Central America, there simply isn't the infrastructure for internet connectivity or cellular service that would support mobile phone uses in the first place. For instance, in rural parts of

Mexico, a combination of satellites and WiFi signals come together to bring internet to the community, otherwise access through “conventional” means, like routers, would be hard to come by (Rostad, 2018).

In addition to the tendencies towards technological determinisms in the digital migration literature, I encountered a problem of context—in terms of how the literature mainly focusing on forced migrants in environments that had the infrastructure for networked communication. For example, Gillespie et al. (2016) interviewed refugees from Syria and Iraq who were residing in locations such as Paris and Cherbourg in France, and London and Swansea in England. Gillespie et al. concluded that some migrants specifically planned their routes along territories that could afford them access to cellular or WiFi signals. However, this study did not include any interviews with those who did not have access to the smartphone, nor have they discussed areas without a smartphone or internet infrastructure.

As such, I discussed the issue of infrastructures and environments in Chapters 3 and 4. In Chapter 3, I emphasized that for networked communications to be possible, there is a need for electrical grids, broadcasting towers, cellular towers, satellite stations, and so on—and, that this is a system that can be controlled and turned off and on. Thus, while the internet is accessible from anywhere, access to the internet is not everywhere. Lisa Parks (2013) refers to this as signal territories, and they are not evenly developed throughout the world because environments are composed of different varying arrays of grids or towers that become subject changing circumstances. For instance, forced migrants migrating along the Syrian southern border touching Turkey were not able to access reliable cellular service through the Syrian service provider, Syria-Tel, because many of their service towers had been destroyed as a result of the on-going civil war (Hayes, 2019). However, in the same region along the border, if forced

migrants were able to switch SIM cards for the Turkish service provider, they could have a better signal. In Chapter 4, I explored how some forced migrants have appropriated devices and existing infrastructures to gain access to internet. For example, the emplaced Yaqui community did not have the infrastructure for internet and could not acquire it through the FCC. The FCC would only license radio spectrums for “cubes of airwaves over squares of land” (Duarte, 2017, p. 39). Because the Yaqui lands were wedged within nearby territories such as Tucson, Arizona that had already been licensed by the FCC, the FCC could not license radio spectrums for them since it would overlap with existing licenses. However, using some of their expert’s experiences with radio waves, they instead appropriated low-power frequencies and obtained a LPFM (lower-power frequency modulation) license from the FCC that would help bring the internet to their communities.

For this reason, I concluded that the smartphones were missing from the “Migrant Caravan” accounts because smartphone use is only possible because of a set of social and technical relations, a sociotechnical assemblage that are connected to issues of infrastructures, institutions like governments or governing bodies such as the FCC, and politics. Each migration experience is embedded in a different set of relations, of which the smartphone is only sometimes a part.

The issue of hybrid space and the spatial affordances of mobile media

Migrant researchers have not contextualized the forced migration experience within the logics of hybrid space (de Souza e Silva, 2006). As such, two shortcomings emerged: a theoretical misunderstanding about the relationship between mobile media and the construction

of space, and a missed opportunity to incorporate existing knowledge on the spatial affordances of mobile media.

The first shortcoming comes from the fact that some digital migration researchers still operationalizes the concept of cyberspace when referring to migrants' uses of the internet. For example, Leurs and Prabhaker (2018) use the term cyberspace as a paradigm for digital migration scholarship. This term is used to describe the activities that migrants do on the internet and through social media and signals to a different approach to thinking about digital media and the space. Cyberspace is a term that originated from William Gibson's (1985) science fiction novel *Necromancer* that was used to describe the world of computers and a society that gathers around them. In the 1990s, this term was used vernacularly to describe the online locations such as games, blogs, chatrooms, instant-messenger conversations that people engaged in that was considered separate from physical spaces. In Chapter 3, I discussed how cyberspace has been appropriated in terms of virtual mobilities (zoom meetings, mobile banking, etc.) and how this is different from the hybrid mobilities that people engage in through location-based games or everyday wayfaring and transportation through applications like Google Maps or Uber. Unlike cyberspace, hybrid space allows for mediated mobilities (Keightley & Reading, 2014) wherein the movement on the screen is coordinated with and reflects the movements conducted in physical geographies. Cyberspace was not meant to move with people. Rather, it was a space that people had to return to access. Unlike hybrid space, it was not integrative. With this said, cyberspace isn't an adequate term to describe our present interactions with the internet and networked communications, especially in the case of forced migration that often involves moving through different locations or being in locations where access to internet is precarious. Forced migrants move as an assemblage of bodies, devices, and hybrid space.

The second shortcoming is also related to hybrid space. There are many studies covering the topic of mobile phones and forced migrants, ranging in topics from personal (keeping connected, keeping memories), to practical (organizing or obtaining information) and social uses (chronicling or sharing information with others). Scholars focused on how migrants maintain connectivity using the mobile phone and social media. For example, some scholars have focused on connection that is maintained through communications and co-presence (2000). Or, some scholars have examined the affordances of smartphones in terms of organizing information and making decisions about migration routes (Dekker et al., 2018; Frouws et al., 2016). Beyond accessing the internet, other studies explored the multi-media affordances of the mobile phone. Gillespie et al. (2016) reported that smartphones were used for wayfaring for their location-based features, and also concluded that smartphones were also used as memory devices for their ability to store voices and images. This later use has been documented by reporters as “digital scrapbooking” or the “Syrian Selfie” wherein users use the smartphone’s multimodal affordances to document their person experiences through taking photos or posting to social media (Chouliaraki, 2017; Literat, 2017; Witty, 2015; Worley, 2016). For some, the smartphone was a memory device and, at times, the only connection to the life they once lived (Brunwasser, 2015). Similarly, Alencar et al. (2018) explored how the smartphone was used in three significant ways: as a digital companion in the absence of friends or family, as an organizational through social media platforms that centralized information, and as a lifeline or diversion from boredom. Although these studies describe the communicative affordances of mobile phones, they did not delve into a conceptual understanding of the affordances of mobile phones in reconfiguring spatial relations.

From Chapter 1, I discussed hybrid space as a local but distributed space because it is sustained through mobile media and through the constant movement of users. The act of movement itself is integral in constituting the hybrid space because it builds the network. Therefore, the emphasis on the mobile phone's communicative affordances overshadowed its spatial affordances in constructing hybrid spaces.

The issues with bordering technologies as mobile media

However, something else was also happening when I began writing this dissertation. Reports have illuminated situations in which bordering practices are shifting to use of mobile bordering technologies such as drones and “smart borders” that enabled bordering practices to move through networked communications. What is at stake is the increasing potential of mobility regimes to further distribute their governing powers and to “always be on.” Instead of having stationary borders; borders are now capable of moving or moving through the movement of others through the process of bordering. Borders literally move through mobile media such as drones or portable devices, and they move (or distribute themselves) through digital infrastructures that make up hybrid space such as databases or networked communications. There were increasing reports and studies done on how states (as in countries) had begun to use technologies to purposefully detect and prevent undesirable mobilities.

Protecting borders has been a central rhetorical approach for many states who practice detecting and deterring irregular migrations (DeChaine, 2012). But, there was an added advantage to “protecting borders” in this manner: it was a way to circumvent the international protocols that give people the right to apply for asylum. For example, international laws and protocols such as the 1951 Convention on the Status of Refugees and the 1967 Protocol have

been set in place to be upheld as international community standards for participating states.³¹ As I discussed in Chapter 2, some critics have argued that these efforts intentionally stop forced migrants from being able to reach protocol member states in order to apply for asylum (Bilgic, 2017; Campesi, 2014). For instance, the European Border Agency Documents show that the Greek coast guard fired bullets at a migrant boat because it would not stop coming towards shore (Z. Campbell, 2016). The European Union has incorporated the use of Eurodac, Eurosur, and the corporate partnership of Frontex into their mobile bordering practices (Bilgic, 2017).

Together, a network of databases that collect and store biometric information, another network of motion detection and visualization technologies, and border patrol agents compose a mobile surveillant assemblage to prevent “irregular migration” (European Commission, 2018; Vukov, 2016; Vukov & Sheller, 2013). Presently, at the U.S. Mexico border, we can see the use of a variety of technologies (such as blimps, drones, heat and motion sensors, gamma- and x-ray detection, cellular signal triangulation, radio wave frequency searches, etc.) to prevent “illegal migrations” (Berkowitz et al., 2019; Gaffary, 2020). What’s more: as technologies in this surveillant assemblage increasingly include mobile media, this surveillant assemblage can also increasingly engender hybrid space. I’ve concluded that through the spatial affordances of mobile media, bordering practices take on the qualities of users in hybrid space and are capable of being mobile, emergent, networked, ambient, and—most alarmingly of all—co-present.

³¹ For a complete list of State Parties to the 1951 Convention relating to the Status of Refugees and the 1967 Protocol, view <https://www.unhcr.org/en-us/protection/basic/3b73b0d63/states-parties-1951-convention-its-1967-protocol.html>. In short, the United States of America, the European Union States, and other countries mentioned in this dissertation such as Australia and Brazil are participating members.

Borders can now be ever co-present in the lives of forced migrants that have serve consequences for their mobilities. In this manner, hybrid spaces have increased the potential of governmobilities' distributive agency and the potential to prevent forced migrants from entering "zones of responsibility" such as state border spaces or their territorial waters.

In Chapter 1, I discussed how mobile media users access hybrid space through mobile technologies and how doing so creates a network of space and enfolds space by melding the distant with the local. This accentuates ambient consequences and affordances, which I discussed in Chapter 2. Networking space, or hybrid space, embeds distant ambient power relations into the environment. Eurodac is the first multinational biometric system commissioned by the European Union that collects and contains only fingerprints. It was a system designed to divvy out responsibilities for forced migrants among member states: the "first country" that a forced migrant arrived at would have first responsibilities to them with respect to applications for asylum. Recently, there was a push to lower the age of fingerprinting from 14 to 6 years old (Lyneham, 2017). This way, younger migrants would be associated at a younger age to a particular "first country," and this is problematic in that different countries practice different asylum standards. This is alarming, especially when Eurodac is partnered with the Frontex corporation who uses drones and satellite imaging to locate migrants and prevent irregular migrations. Together, this means, the border space and the border check point are networked and are co-present with the forced migrant, wherever they may go, through their fingertips. Bordering is occurring on the ground and on the screen.

Therefore, the issue of only considering the mobile phone as the central mobile media involved in the forced migration experience ignores the larger environment of multiple mobile media. I conclude that a more expansive view of mobile media in the lives of forced migrants

illustrates the tensions surrounding the distribution of agency. For this reason, Chapter 4 offers examples of how the arrangement and design of both environments and devices can alter capabilities. To this end, I sustained that *hybrid mobile capabilities* depend on environments that enable the engendering of hybrid space. Hybrid mobilities require hybrid space to serve as a nexus for informational landscapes and physical geographies, but this nexus is complicated by the lack of infrastructure to support internet and by mobility regimes that now also conduct their business in hybrid space. This concept recognizes that forced migrants' agential capabilities are distributed among sociotechnical and kinetic assemblages that cannot be credited to any one source, yet at the same time realize that forced migrants are capable of using the technologies of the self to change things in their environment or designs among their devices to acquire different agential capabilities. At very last, hybrid mobile capabilities, as a developing conceptual too, can be used to consider the corporeal, connective, and relational aspects of forced migrant mobilities as a process that is entangled in the earth and the internet.

Limitations and future studies

As previously stated, one of the main contributions of my dissertation was to develop a theoretical framework to study forced migrations that includes the idea of hybrid mobilities. Although I have included examples of how my theoretical framework can be applied, I believe this research can be further developed with a field study that allows for interviews with forced migrants to understand the kinds of environments in which they have migrated through. While I have provided a number of examples in which my theoretical framework helps to understand digital media use in the context of forced migration experience, I understand that a deeper dive into one or two key cases may provide a deeper understanding about the dynamics of forced

migration in hybrid space. Using this theoretical framework, future studies can also focus on using mobile methods such as digital ethnographies to better connect the empirical findings to the concepts.

In the future, I would like to return to the archival and news sources that I've consulted in this dissertation and conduct a discourse content analysis to look for patterns in how migrants and smartphones are reported in relation to each other to examine the frequency of terms (migrant, refugee, asylum-seeker, etc.) used. I would then compare this to the migration or immigration policies that in operation during the time of the discourse sample to better articulate how material-discursive relationships form, and, thus, inform mobilities and digital migration audiences about another aspect of the complexities involved in forced migrations and mobility.

In terms of future studies for the field of digital migrations, more scholarship is needed in three major areas. The first area calls for studies that analyzes the lives of forced migrants in the context of hybrid space. As I've mentioned in my central concerns, although forced migrants might not use digital media per se, digital media is being used on them. The second area of needed scholarship calls for more studies that explore mobile media beyond the mobile phone to include at least mobile bordering technologies to understand how local and distant spaces are enfolded and matter in the lives of forced migrants. The third area calls for conceptual and mixed-method approaches that investigate migrant's media environments, infrastructures, mobility systems, and policies of jurisdictions to understand how power relations are staged.

What's at stake

Although the mobile media, especially the smartphone, re-arranges spatial relations, the smartphone is not definitively a tool of empowerment. For forced migrants, it is a tool that is

embedded in the kinopolitics of infrastructure. I've demonstrated that the field of digital migrations tends to be technologically deterministic in conceptualizing the role of the technology in the migration experience. Being hopeful in scholarship and research is not nefarious because to an extent our hopes and aspirations for technologies are connected to our own hopes for the social world, but these hopes that we collectively imagine into the characteristics of technologies can ignore the larger systems of power that are working in concert with other systems of power. As such, what's at stake in identifying technologies as a source of agency in the mobilities of forced migrants ignores the laws, politics, and infrastructures that support mobilities and immobilities, and doing so ignores the creative ways in which both forced migrants and border or government authorities attune to ever changing situations and environments. For instance, forced migrants are not the only actors engage in creative appropriations in the example of the Arizona Senate Bill that misused the existing infrastructure for municipal police to perform the world of border patrol agents or the emerging uses of mobile bordering technologies to engage in "smart borders" (Chapter 2). As forced migrants engage in their movements, other parts of the sociotechnical and kinetic systems are also engaging in various other movements.

Next, bordering practices have shifted to hybrid spaces. As such, I have concluded that hybrid spaces have increased the potential of governmobilities' distributive power. Thus, when politicians and legislators consider making policy reforms or changes to existing laws, they may not understand how hybrid space reconfigures the lives forced migrants. I hope that they are informed by the research done by our scholarly community. Therefore, there's political stake in conceptualizing the reality of hybrid space. For instance, in Chapter 2, I discussed the Eurodac. It only collects fingerprints and place of registration of persons 14 years or older with no other personal information, but the fingerprint travels everywhere with the person. When the person

applies for asylum anywhere in the participating 28 member states of the European Union, their fingerprints are stored into the Eurodac central system. It is intended to “facilitate the judicious and transparent receipt and processing of asylum applications” (European Commission, 2019). But it is also used to track where this fingerprint has been printed before. Thus, it tracks mobility and it is a tool to justify the regulation of the fingerprint’s future mobilities. Recently, there is a move to lower the age of fingerprinting from 14 to 6 years old, among other proposals (Lyneham, 2017). The implication of such as policy change is that at age 6, a forced migrant *child* is already a fingerprint that authorities can easily monitor, track, and prevent the future mobilities of through the use of mobile networked technologies and the hybrid space that enfolds distant information to local hands.

Additionally, there are major social and political stakes in understanding how people, particularly forced migrants, are being positioned, represented, and spatially regulated in hybrid space. I am referring to forced migrant children. As a zero tolerance policy against Central American families from trying to cross the U.S.-Mexico border, minors migrating with adults who are apprehended for “illegal” entry are separated from their parents or guardians. Or, minors who arrive at the border alone are taken by the Department of Homeland Security and turned over to the Department of Health and Human Services Office of Refugee Resettlement. The U.S. government, and especially this agency, at this point is responsible for the safety of these children and where they are to be placed while they await their asylum claim decisions. However, in 2018, this agency admitted that they had lost track of some of the migrant children that they had moved out of the shelters (Nixon, 2018). Senate investigators reported that the agency could not account for the whereabouts of 1,488 out of a total of 11,254 children that the agency placed with sponsors. These children, unlike those that are tracked and moving through

the Eurodac fingerprinting system as data, are untraceable. They cannot be located neither as a body or as data, and they cannot be located on the earth or in our databases or within our networked communication systems. This, the inability to find them in so-called informational spaces, is another way in which hybrid space complicates the forced migration experience and another example of how hybrid space is implicated in the control and regulation of mobilities.

As I am writing this conclusion, the world is also experiencing the COVID-19 pandemic, and although my research has not had the time to process the implication of this pandemic on the forced migration experience, I believe that future studies that build on this work will also need to consider how public health communication shape mobility regimes because the COVID-19 pandemic has proven that kinopolitics is also very much informed by communication that occur in hybrid space. For example, very recently, the Maltese government was accused of sabotaging a migrant boat approximately 20 miles southwest of the Malta shore (Kingsley, 2020). The boat was carrying about 70 people fleeing from the war zone of Libya. Over the past years of continuous civil war, the health care system in Libya has been destroyed. Yet, Libya has been and continues to be a dominant transit point for most migrants seeking their way into Europe. Authorities in Italy, Malta, Greece, and Spain have been trying to prevent irregular migrations across the Mediterranean Sea from locations such as Libya, but now, with the onset of the COVID-19 outbreak, health concern reasons now prevent migrants from seeking asylum, especially for migrants who have travelled through areas of high infection rates such as Libya. As Kingsley (2020) writes, “The Maltese government has increasingly delayed responding to migrant boats in distress, and last month [March 2020] allowed the Libyan Coast Guard to intercept migrants who had already reached the Maltese zone of responsibility.” This isn’t intended to underscore the health precautions that must be taken for public health, but this

example is intended to show that we are now seeing another element emerge as part of the mobility regime: authorities are shifting from biopolitics to biology as another criteria of subjectivizing migrant bodies to the technologies of screening, in efforts to limit and control mobility. As such, the events that are unfolding before us demonstrate the need to understand the forced migration experience and hybrid mobilities in terms of distributed agency in hybrid space, in terms of how we experience mobilities in hybrid space.

REFERENCES

- Abrahamson, E. J., & Carneiro, L. (2017). Mobilities. In A. de Souza e Silva (Ed.), *Dialogues in Mobile Communications* (pp. 15–31). Routledge.
- Adey, P. (2006). If mobility is everything then it is nothing: Towards a relational politics of (Im)mobilities. *Mobilities*, 1(1), 75–94. <https://doi.org/10.1080/17450100500489080>
- Adey, P. (2014). Migration. In P. Merriman, M. Sheller, K. Hannam, P. Adey, & D. Bissell (Eds.), *The Routledge Handbook of Mobilities*. Routledge.
- Aggarwal, D. (2017, September 24). Bangladesh imposes mobile phone ban on Rohingya refugees. *Inshorts*. <https://inshorts.com/en/news/bangladesh-imposes-mobile-phone-ban-on-rohingya-refugees-1506270453961>
- Agnew, J. (1994). The territorial trap: The geographical assumptions of international relations theory. *Review of International Political Economy*, 1(1), 53–80. JSTOR.
- Ahmed, S., Castaneda, C., & Sheller, M. (Eds.). (2003). *Uprooting/Regroundings: Questions of home and migration*. New York University Press.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Alencar, A., Kondova, K., & Ribbens, W. (2018). The smartphone as a lifeline: An exploration of refugees' use of mobile communication technologies during their flight. *Media, Culture & Society*, 41(6), 828–844. <https://doi.org/10.1177/0163443718813486>
- Alencar, A., & Tsagkroni, V. (2019). Prospects of refugee integration in the Netherlands: Social capital, information practices and digital media. *Media and Communication*, 7(2), 184–194. <https://doi.org/10.17645/mac.v7i2.1955>
- Alijadid, R. (2018, February 22). Provoked by 'boat migrants' tragedy, young Syrian refugee invents smart life jacket. *Jordan Times*. <http://jordantimes.com/news/local/provoked-boat-migrants%E2%80%99tragedy-young-syrian-refugee-invents-smart-life-jacket>
- Alinejad, D., Candidatu, L., Mevsimler, M., Minchilli, C., Ponzanesi, S., & Van der Vlist, F. N. (2019). Diaspora and mapping methodologies: Tracing transnational digital connections with 'mattering maps.' *Global Networks*, 19(1), 21–43. <https://doi.org/10.1111/glob.12197>
- Allen, A. (2002). Power, subjectivity, and agency: Between Arendt and Foucault. *International Journal of Philosophical Studies*, 10(2), 131–149. <https://doi.org/10.1080/09672550210121432>
- Allen, J. (2006). Ambient power: Berlin's Potsdamer Platz and the seductive logic of public spaces. *Urban Studies*, 43(2), 441–455. <https://doi.org/10.1080/00420980500416982>

- Allen, J. (2011). *Lost Geographies of Power*. John Wiley & Sons.
- Amnesty International. (2018, November 16). Key facts about the migrant and refugee caravans making their way to the USA. *Amnesty International*.
<https://www.amnesty.org/en/latest/news/2018/11/key-facts-about-the-migrant-and-refugee-caravans-making-their-way-to-the-usa/>
- Amoore, L. (2006). Biometric borders: Governing mobilities in the war on terror. *Political Geography*, 25(3), 336–351. <https://doi.org/10.1016/j.polgeo.2006.02.001>
- Anderson, N., Potočník, K., & Zhou, J. (2014). Innovation and creativity in organizations. *Journal of Management*, 40(5), 1297–1333. <https://doi.org/10.1177/0149206314527128>
- Angulo-Pasel, C. (2018). The journey of Central American women migrants: En *gender* ing the mobile commons. *Mobilities*, 13(6), 894–909.
<https://doi.org/10.1080/17450101.2018.1498225>
- Aouragh, M. (2011). Confined Offline, Traversing Online Palestinian Mobility through the Prism of the Internet. *Mobilities*, 6(3), 375–397.
<https://doi.org/10.1080/17450101.2011.590036>
- Appadurai, A. (1996). *Modernity at large: Cultural dimension of globalization*. U of Minnesota Press.
- Arendt, H. (1943). We refugees. *The Menorah Journal*, 31.
- Aricat, R. G. (2015). Mobile/Social Media Use for Political Purposes Among Migrant Laborers in Singapore. *Journal of Information Technology & Politics*, 12(1), 18–36.
<https://doi.org/10.1080/19331681.2014.994156>
- Aricat, R. G., & Ling, R. (2018). *Mobile communication and low-skill migrants' acculturation to cosmopolitan Singapore*. Lexington Books.
- Ashutosh, I., & Mountz, A. (2012). The Geopolitics of Migrant Mobility: Tracing State Relations Through Refugee Claims, Boats, and Discourses. *Geopolitics*, 17(2), 335–354.
<https://doi.org/10.1080/14650045.2011.567315>
- Asiyanbi, A. P., Ogar, E., & Akintoye, O. A. (2019). Complexities and surprises in local resistance to neoliberal conservation: Multiple environmentalities, technologies of the self and the poststructural geography of local engagement with REDD. *Political Geography*, 69, 128–138. <https://doi.org/10.1016/j.polgeo.2018.12.008>
- Baban, F., Ilcan, S., & Rygiel, K. (2017). Syrian refugees in Turkey: Pathways to precarity, differential inclusion, and negotiated citizenship rights. *Journal of Ethnic & Migration Studies*, 43(1), 41–57. <https://doi.org/10.1080/1369183X.2016.1192996>

- Bærenholdt, J. O. (2013). Governmobility: The Powers of Mobility. *Mobilities*, 8(1), 20–34. <https://doi.org/10.1080/17450101.2012.747754>
- Baldassar, L., Nedelcu, M., Merla, L., & Wildling, R. (2016). ICT-based co-presence in transnational families and communities: Challenging the premise of face-to-face proximity in sustaining relationships. *Global Networks*, 16(2), 133–144. <https://doi.org/10.1111/glob.12108>
- Balibar, É. (2002). *Politics and the Other Scene*. Verso.
- Bar, F. (2008). *Annenberg Research Seminar: Francois Bar, USC*. Annenberg Research Seminar, Annenberg, USC. http://archive.org/details/Bar_Pisani_Weber_ARStalk_april7-08
- Bar, F., Pisani, F., & Weber, M. (2007, April 20). Mobile technology appropriation in a distant mirror: Baroque infiltration, creolization and cannibalism. *Seminario Sobre Desarrollo Económico, Desarrollo Social y Comunicaciones Móviles En América Latina*. Fundación Telefónica, Buenos Aires. <https://doi.org/10.1177/1461444816629474>
- Bar, F., Weber, M., & Pisani, F. (2016). Mobile technology appropriation in a distant mirror: Baroquization, creolization, and cannibalism. *New Media & Society*, 18(4), 617–636.
- Barad, K. (2003). Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter. *Signs: Journal of Women in Culture and Society*, 28(3), 801–831. <https://doi.org/10.1086/345321>
- Barad, K. (2007). *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Duke University Press.
- Bargu, B. (2017). The Silent Exception: Hunger Striking and Lip-Sewing. *Law, Culture and the Humanities*, 174387211770968. <https://doi.org/10.1177/1743872117709684>
- Baron, L. F., Neils, M., & Gomez, R. (2014). Crossing new borders: Computers, mobile phones, transportation, and English language among Hispanic day laborers in Seattle, Washington. *Journal of the Association for Information Science and Technology*, 65(1), 98.
- Beech, E., Torbati, Y., & Walsh, E. (2017, November 21). U.S. to end protected status for Haitians in July 2019. *Reuters*. <https://www.reuters.com/article/us-usa-immigration-haiti-idUSKBN1DL02Q>
- Beech, H. (2018, August 2). Myanmar Official Line: Rohingya Are Returning. But Cracks in That Story Abound. *The New York Times*. <https://www.nytimes.com/2018/08/02/world/asia/myanmar-rohingya-rakhine.html>
- Beech, H., & Nang, S. (2019, July 2). The Government Cut Their Internet. Will Abuses Now Remain Hidden? *The New York Times*.

<https://www.nytimes.com/2019/07/02/world/asia/internet-shutdown-myanmar-rakhine.html>

Bennett, J. (2010). *Vibrant matter: A political ecology of things*. Duke University Press.

Berkowitz, B., Tan, S., & Uhrmacher, K. (2019, February 8). *Beyond the wall: Dogs, blimps and other things used to secure the border*. Washington Post.
<https://www.washingtonpost.com/graphics/2019/national/what-is-border-security/>

Bertolucci, B. (1990). *The Sheltering Sky* [Film]. Warner Brothers.
<https://www.imdb.com/title/tt0100594/>

Bier, & Feeney, M. (2018, May 1). *Drones on the Border: Efficacy and Privacy Implications*. Cato Institute. <https://www.cato.org/publications/immigration-research-policy-brief/drones-border-efficacy-privacy-implications>

Bigo, D. (2014). Death in the Mediterranean Sea: The Results of the Three Fields of Action of EU Border Controls. In Y Jansen, R. Celikates, & J. de Bloois (Eds.), *The irregularization of migration in contemporary Europe: Detention, deportation, drowning* (pp. 55–70). Rowman & Littlefield International.

Bilgic, A. (2017, December 5). Push-back and the violence of Frontex. *Civil Society Futures*.
<https://civilsocietyfutures.org/push-back-violence-frontex/>

Birtchnell, T., & Caletrió, J. (Eds.). (2014). *Elite mobilities*. Routledge.

Blair, C. (1999). Contemporary U.S. memorial sites as exemplars of rhetoric's materiality. In J. Selzer & S. Crowley (Eds.), *Rhetorical Bodies*. University of Wisconsin Press.

Bohr, N. (1934). *The Philosophical Writings of Niels Bohr, Essays 1933-1957* (Vol. 2). Ox Bow Press;
https://openlibrary.org/books/OL2379272M/The_philosophical_writings_of_Niels_Bohr.

Boochani, B., & Sarvestani, A. K. (2017, June 11). *Chauka, Please Tell Us the Time* [Documentary].

Boochani, B. (2019). *No Friend but the Mountains: Writing from Manus Prison* (O. Tofighian, Trans.). House of Anansi.

Borkert, M., Fisher, K. E., & Yafi, E. (2018). The Best, the Worst, and the Hardest to Find: How People, Mobiles, and Social Media Connect Migrants In(to) Europe. *Social Media + Society*, 4(1), 205630511876442. <https://doi.org/10.1177/2056305118764428>

Brambilla, C. (2015). Exploring the Critical Potential of the Borderscapes Concept. *Geopolitics*, 20(1), 14–34. <https://doi.org/10.1080/14650045.2014.884561>

- Brennan, A., & Dooley, L. (2005). Networked creativity: A structured management framework for stimulating innovation. *Technovation*, 25(12), 1388–1399. <https://doi.org/10.1016/j.technovation.2004.08.001>
- Brinkerhoff, J. M. (2009). *Digital Diasporas: Identity and Transnational Engagement*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511805158>
- Brunwasser, M. (2015, August 25). A 21st-Century Migrant's Essentials: Food, Shelter, Smartphone. *The New York Times*. <https://www.nytimes.com/2015/08/26/world/europe/a-21st-century-migrants-checklist-water-shelter-smartphone.html>
- Butler, J. (1990). *Gender Trouble*. Routledge.
- Butler, J. (1997). *The psychic life of power: Theories in subjection*. Stanford University Press. <https://web.education.wisc.edu/halverson/wp-content/uploads/sites/33/2012/12/Judith-Butler-The-Psychic-Life-of-Power-copy.pdf>
- Campbell, S. W. (2013). Mobile media and communication: A new field, or just a new journal? *Mobile Media & Communication*, 1(1), 8–13. <https://doi.org/10.1177/2050157912459495>
- Campbell, Z. (2016, August 22). Shoot First: Coast Guard Fired at Migrant Boats, European Border Agency Documents Show. *The Intercept*.
- Campesi, G. (2014). Frontex, the Euro-Mediterranean Border and the Paradoxes of Humanitarian Rhetoric (SSRN Scholarly Paper ID 2519410). *Social Science Research Network*. <https://papers.ssrn.com/abstract=2519410>
- Carranza, R. (2019, January 11). Third drug tunnel in one month found in Nogales. *Arizona Republic*. <https://www.azcentral.com/story/news/politics/border-issues/2019/01/11/third-drug-tunnel-one-month-found-nogales/2550685002/>
- Chappell, B. (2016, August 16). *Deal Is Reached On Arizona's Hardline Immigration Law, After 6-Year Fight*. NPR.Org. <https://www.npr.org/sections/thetwo-way/2016/09/16/494245921/deal-is-reached-on-arizonas-hardline-immigration-law-after-6-year-fight>
- Chib, A., Malik, S., Aricat, R. G., & Kadir, S. Z. (2014). Migrant mothering and mobile phones: Negotiations of transnational identity. *Mobile Media & Communication*, 2(1), 73–93.
- Choney, S. (2013). *Syrian rebels use iPad to help fire mortar*. NBC News. <https://www.nbcnews.com/technolog/syrian-rebels-use-ipad-help-fire-mortar-4B11187474>
- Chouliaraki, L. (2015). Digital witnessing in conflict zones: The politics of remediation. *Information, Communication & Society*, 18(11), 1362–1377. <https://doi.org/10.1080/1369118X.2015.1070890>

- Chouliaraki, L. (2016). Authoring the self: Media, voice and testimony in soldiers' memoirs. *Media, War & Conflict*, 9(1), 58–75. <https://doi.org/10.1177/1750635216636509>
- Chouliaraki, L. (2017). Symbolic bordering: The self-representation of migrants and refugees in digital news. *Popular Communication*, 15(2), 78–94. <https://doi.org/10.1080/15405702.2017.1281415>
- Cisneros, J. D. (2014). *The Border Crossed Us: Rhetorics of Borders, Citizenship, and Latina/o Identity*. University of Alabama Press.
- Cresswell, T. (1999). Embodiment, Power and the Politics of Mobility: The Case of Female Tramps and Hobos. *Transactions of the Institute of British Geographers*, 24(2), 175–192. <https://doi.org/10.1111/j.0020-2754.1999.00175.x>
- Cresswell, T. (2004). *Place: A short introduction*. Blackwell.
- Cresswell, T. (2010). Towards a politics of mobility. *Environment and Planning D: Society and Space*, 28, 17–31.
- Cresswell, T., & Uteng, T. P. (2008). Gendered mobilities: Towards a holistic understanding. In T. Cresswell & T. P. Uteng (Eds.), *Gendered Mobilities* (pp. 1–12). Ashgate.
- Critchfield, H. (2020, January 10). *Arizona Senator Proposes Bill to Repeal Controversial SB 1070 Law* / *Phoenix New Times*. Phoenix New Times. <https://www.phoenixnewtimes.com/news/sb1070-1070-arizona-immigration-law-repeal-bill-latinos-11422114>
- Cullinane, S. (2017, August 27). *Arrests after border tunnel found in San Diego*. CNN. <https://www.cnn.com/2017/08/27/us/san-diego-immigrant-smuggling-tunnel/index.html>
- Curtis, B. (2002). Foucault on Governmentality and Population: The Impossible Discovery. *The Canadian Journal of Sociology / Cahiers Canadiens de Sociologie*, 27(4), 505–533. <https://doi.org/10.2307/3341588>
- Cushman, E. (2013). Wampum, Sequoyan, and Story: Decolonizing the Digital Archive. *College English*, 76(2), 115–135.
- d'Arcy, J. (1977). The Right to Man to Communicate. In L. S. Harms, J. Richstad, & K. A. Kie (Eds.), *Right to Communicate: Collected Papers*. University of Hawaii at Manoa.
- Davis, F. (1989). Perceived usefulness, perceived eas of use, and user acceptance of information technology. *MIS Quarterly*, 13(1), 319–339.
- de Diego, J. (2019, November 30). Coast Guard fights on different front line in the immigration crisis. *CNN World*. <https://www.cnn.com/2014/10/30/world/uscg-embed-migrants-at-sea/index.html>

- de Souza e Silva, A. (2006). From cyber to hybrid: Mobile technologies as interfaces of hybrid spaces. *Space and Culture*, 9(3), 261–278.
- de Souza e Silva, A., Duarte, F., & Damasceno, C. (2017). Creative Appropriations in Hybrid Spaces: Mobile Interfaces in Art and Games in Brazil. *International Journal of Communication*, 11, 1705–1728.
- de Souza e Silva, A., & Frith, J. (2012). *Mobile interfaces in public spaces: Locational privacy, control, and urban sociability*. Routledge.
- de Souza e Silva, A., Sutko, D., Salis, F., de Souza e Silva, C., Salis, F. A., & de Souza e Silva, C. (2011). Mobile phone appropriation in the favelas of Rio de Janeiro, Brazil. *New Media & Society*, 13(3), 411–426. <https://doi.org/10.1177/1461444810393901>
- de Souza e Silva, A. (2004). *From multiuser environments as (virtual) spaces to (hybrid) spaces as multiuser environments*. [Doctoral dissertation, Universidade Federal do Rio de Janeiro].
- de Souza e Silva, A., & Xiong-Gum, M. N. (forthcoming). Mobile networked creativity. *Communication Theory*.
- Death, C. (2010). Counter-conducts: A Foucauldian Analytics of Protest. *Social Movement Studies*, 9(3), 235–251. <https://doi.org/10.1080/14742837.2010.493655>
- DeChaine, D. R. (2012). *Border Rhetorics: Citizenship and Identity on the US-Mexico Frontier*. University of Alabama Press.
- Degele, N. (1997). Appropriation of Technology as a Creative Process. *Creativity and Innovation Management*, 6(2), 89–93. <https://doi.org/10.1111/1467-8691.00054>
- Dekker, R., Engbersen, G., & Faber, M. (2016). The Use of Online Media in Migration Networks. *Population, Space and Place*, 22(6), 539–551. <https://doi.org/10.1002/psp.1938>
- Dekker, Rianne, & Engbersen, G. (2014). How social media transform migrant networks and facilitate migration. *Global Networks*, 14(4), 401–418. <https://doi.org/10.1111/glob.12040>
- Dekker, Rianne, Engbersen, G., Klaver, J., & Vonk, H. (2018). Smart Refugees: How Syrian Asylum Migrants Use Social Media Information in Migration Decision-Making. *Social Media + Society*, 4(1), 205630511876443. <https://doi.org/10.1177/2056305118764439>
- DeLanda, M. (2006). *A New Philosophy of Society: Assemblage Theory and Social Complexity*. Bloomsbury Publishing.
- Deleuze, G., & Guattari, F. (1983). *A thousand plateaus* (B. Massumi, Trans.). University of Minnesota Press.

- Deleuze, G., & Guattari, F. (1994). *What is philosophy?* (H. Tomlinson & G. Burchell, Trans.). Columbia University Press.
- dell'Agnese, E., & Amilhat Szary, A.-L. (2015). Borderscapes: From Border Landscapes to Border Aesthetics. *Geopolitics*, 20(1), 4–13.
<https://doi.org/10.1080/14650045.2015.1014284>
- Department of Homeland Security. (2018, August 30). *CBP Reporting Offsite Arrival Mobile*.
<https://www.cbp.gov/travel/pleasure-boats-private-flyers/pleasure-boat-overview/roam>
- Department of Homeland Security. (2019, October 30). *Mobile Passport Control / U.S. Customs and Border Protection*. <https://www.cbp.gov/travel/us-citizens/mobile-passport-control>
- Dijstelbloem, H., Meijer, A., & Besters, M. (2011). The Migration Machine. In H. Dijstelbloem & A. Meijer (Eds.), *Migration and the New Technological Borders of Europe* (pp. 1–21). Palgrave Macmillan UK. https://doi.org/10.1057/9780230299382_1
- Diminescu, D. (2008). The connected migrant: An epistemological manifesto. *Social Science Information*, 47(4), 565–579. <https://doi.org/10.1177/0539018408096447>
- Doherty, B. (2018, April 22). Chinese migrants snub Australia's \$5m “golden ticket” visas. *The Guardian*. <https://www.theguardian.com/australia-news/2018/apr/23/chinese-migrants-snub-australias-5m-golden-ticket-visas>
- Dourish, P. (1996). Re-placig space: The role of place and space in collaborative systems. *CSCW*, 1–10.
- Dourish, P. (2003). The Appropriation of Interactive Technologies: Some Lessons from Placeless Documents. *Computer Supported Cooperative Work (CSCW)*, 12(4), 465–490. <https://doi.org/10.1023/A:1026149119426>
- Dourish, P., & Bell, G. (2007). The Infrastructure of Experience and the Experience of Infrastructure: Meaning and Structure in Everyday Encounters with Space. *Environment and Planning B: Planning and Design*, 34(3), 414–430. <https://doi.org/10.1068/b32035t>
- Duarte, M. E. (2017). *Network Sovereignty: Building the Internet across Indian Country*. University of Washington Press.
- Dwyer, C. (2019, January 31). *Asylum-Seeker Barred From Entering Australia Wins Its Richest Literary Prize*. NPR.Org. <https://www.npr.org/2019/01/31/690404443/asylum-seeker-barred-from-entering-australia-wins-its-richest-literary-prize>
- Economy Trends of Key West and Monroe County*. (2019). Key West Chamber of Commerce. https://www.keywestchamber.org/uploads/4/6/5/2/46520599/demographics_and_economy_update_2019.pdf
- Elden, S. (2016). *Foucault's Last Decade*. John Wiley & Sons.

- Elliott, A., & Urry, J. (2015). New technologies, new mobilities. In J. Farman (Ed.), *Foundation of Mobile Media Studies: Essential Texts on the Formation of a Field* (pp. 33–49). Routledge.
- European Commission. (2018, May 14). *European Border Surveillance System (EUROSUR)* [Text]. Migration and Home Affairs - European Commission. https://ec.europa.eu/home-affairs/what-we-do/networks/european_migration_network/glossary_search/european-border-surveillance-system_en
- European Commission. (2019, October 7). *EURODAC (European Asylum Dactyloscopy Database)* [Text]. Knowledge for Policy - European Commission. https://ec.europa.eu/knowledge4policy/dataset/ds00008_en
- Eyman, D. (2015). *Digital Rhetoric: Theory, Method, Practice*. University of Michigan Press.
- Flamm, M., & Kaufmann, V. (2006). Operationalising the Concept of Motility: A Qualitative Study. *Mobilities*, 1(2), 167–189. <https://doi.org/10.1080/17450100600726563>
- Flint, T., & Turner, P. (2016). Enactive appropriation. *AI & SOCIETY*, 31(1), 41–49. <https://doi.org/10.1007/s00146-015-0582-y>
- Flores, L. A. (2003). Constructing Rhetorical Borders: Peons, Illegal Aliens, and Competing Narratives of Immigration. *Critical Studies in Media Communication*, 20(4), 362–387. <https://doi.org/10.1080/0739318032000142025>
- Flores, L. A. (2019). Stoppage and the Racialized Rhetorics of Mobility. *Western Journal of Communication, Journal Article*, 1–17. <https://doi.org/10.1080/10570314.2019.1676914>
- Flynn, T. R. (1985). Truth and Subjectivation in the Later Foucault. *The Journal of Philosophy*, 82(10), 531–540. JSTOR. <https://doi.org/10.2307/2026360>
- Fontanini, F., & Romo, A. (2018, November 7). *Central American refugees and migrants reach Mexico City*. UNHCR. <https://www.unhcr.org/news/latest/2018/11/5be2ed814/central-american-refugees-migrants-reach-mexico-city.html>
- Foucault, M. (1969). *The Archaeology of Knowledge and the Discourse on Language* (S. Smith, Trans.) Pantheon Books.
- Foucault, M. (1975). *Discipline and Punish: The Birth of the Prison* (A. Sheridan, Trans.). Vintage Books.
- Foucault, M. (1976). “*Society Must Be Defended*”: *Lectures at the Collège de France, 1975-1976* (F. Ewald, Ed.). Macmillan.
- Foucault, M. (1977). *Security, territory, population: Lectures at the College de France, 1977-78* (M. Senellart, Ed.; G. Burchell, Trans.; Vol. 45). Palgrave Macmillan.
- Foucault, M. (1978). *The history of sexuality*. Pantheon Books.

- Foucault, M. (1979). *Discipline and punish: The birth of the prison*. Vintage Books.
- Foucault, M. (1980). *Power/knowledge: Selected interviews and other writings, 1972-1977* (C. Gordon, Trans.; 1st American ed). Pantheon Books.
- Foucault, M. (1988). *Technologies of the self: A seminar with Michel Foucault* (L. H. Martin, H. Gutman, & P. H. Hutton, Eds.). University of Massachusetts Press.
- Foucault, M. (1993). About the Beginning of the Hermeneutics of the Self: Two Lectures at Dartmouth. *Political Theory*, 21(2), 198–227. JSTOR.
- Foucault, M. (1997). *Ethics: Subjectivity and Truth* (P. Rabinow, Ed.). Norton.
- Frank, R. (2017, February 25). For Millionaire Immigrants, a Global Welcome Mat. *The New York Times*. <https://www.nytimes.com/2017/02/25/your-money/wealth-immigration-millionaires-australia-canada.html>
- Freeman, J. C. (2013). Border Memorial: Frontera De Los Muertos. *Public Art Dialogue*, 3(1), 129–131. <https://doi.org/10.1080/21502552.2013.766874>
- Freeman, J. C., & Auchter, J. (2015). *Border Memorial: Frontera de los Muertos*. Hyperrhiz: New Media Cultures. <https://doi.org/10.20415/hyp/012.am01>
- Frith, J. (2012). Splintered Space: Hybrid Spaces and Differential Mobility. *Mobilities*, 7(1), 131–149. <https://doi.org/10.1080/17450101.2012.631815>
- Frith, J., & Özkul, D. (2019). Mobile media beyond mobile phones. *Mobile Media & Communication*, 7(3). <https://journals-sagepub-com.prox.lib.ncsu.edu/doi/full/10.1177/2050157919850405>
- Frontex. (2019). *Eastern Mediterranean Route*. <https://frontex.europa.eu/along-eu-borders/migratory-routes/eastern-mediterranean-route/>
- Frouws, B., Phillips, M., Hassan, A., & Twigt, M. (2016). *Getting to Europe the “What’sApp” way: The use of ICT in contemporary mixed migration flows to Europe*. Danish Refugee Council.
- Gaffary, S. (2020, February 7). *The “smarter” wall: How drones, sensors, and AI are patrolling the border*. Vox. <https://www.vox.com/recode/2019/5/16/18511583/smart-border-wall-drones-sensors-ai>
- Galford, C. (2019, June 5). CBP ROAM App expands reach in Michigan, Minnesota. *Homeland Preparedness News*. <https://homelandprepnews.com/stories/34217-cbp-roam-app-expands-reach-in-michigan-minnesota/>
- Gane, N. (2012). The Governmentalities of Neoliberalism: Panopticism, Post-Panopticism and beyond. *The Sociological Review*, 60(4), 611–634. <https://doi.org/10.1111/j.1467-954X.2012.02126.x>

- Gaviria, M. (2018, July 31). *Separated: Children at the Border*.
<https://www.pbs.org/wgbh/frontline/film/separated-children-at-the-border/transcript/>
- Gessen, M. (2019, September 11). *Behrouz Boochani Is One of Australia's Most Celebrated Writers, But He Can't Step Onshore* | *The New Yorker*. The New Yorker.
<https://www.newyorker.com/news/our-columnists/behrouz-boochani-is-one-of-australias-most-celebrated-writers-but-he-cant-step-onshore>
- Gibson, J. (1986). *The ecological approach to visual perception*. Cornell University.
- Gibson, W. (1985). *Neuromancer*. Penguin.
- Gil-Bazo, M.-T. (2015). The Safe Third Country Concept in International Agreements on Refugee Protection Assessing State Practice. *Netherlands Quarterly of Human Rights*, 33(1), 42–77. <https://doi.org/10.1177/016934411503300104>
- Giles, H., & Ogay, T. (2007). Communication Accommodation Theory. In B. Whaley & W. Samter (Eds.), *Explaining communication: Contemporary theories and exemplars* (pp. 293–310). Lawrence Erlbaum.
- Gill, N., Caletřío, J., & Mason, V. (2011). Introduction: Mobilities and Forced Migration. *Mobilities*, 6(3), 301–316. <https://doi.org/10.1080/17450101.2011.590032>
- Gillespie, M. (2009). 'Anytime, anyplace, anywhere': Digital diasporas and the BBC World Service. *Journalism: Theory, Practice & Criticism*, 10(3), 322–325.
<https://doi.org/10.1177/1464884909102575>
- Gillespie, M., Ampofo, L., Cheesman, M., Faith, B., Iliadou, E., Issa, A., Osseiran, S., & Skleparis, D. (2016). Mapping Refugee Media Journeys: Smartphones and Social Media Networks. *The Open University / France Médias Monde*.
<https://doi.org/10.13140/rg.2.2.15633.22888>
- Gillespie, M., Osseiran, S., & Cheesman, M. (2018). Syrian Refugees and the Digital Passage to Europe: Smartphone Infrastructures and Affordances. *Social Media + Society*, 4(1), 2056305118764440. <https://doi.org/10.1177/2056305118764440>
- Gilpin, R. (1981). *War and Change in World Politics*. Cambridge University Press.
- Goodhue, D. (2019, November 9). Group of migrants land in Florida Keys Wednesday morning in makeshift boat. *Miami Herald*.
<https://www.miamiherald.com/news/local/community/florida-keys/article235949297.html>
- Goodwin-Gill, G. S. (2003). Article 31 of the 1951 Convention Relating to the Status of Refugees: Non-penalization, detention, and protection. In E. Feller, V. Türk, & F. Nicholson (Eds.), *Refugee Protection in International Law* (1st ed., pp. 185–252). Cambridge University Press. <https://doi.org/10.1017/CBO9780511493973.011>

- Gordon, E., & de Souza e Silva, A. (2011). *Net locality: Why location matters in a networked world*. MIT Press.
- Graham, D. A. (2018, June 18). *Are Children Being Kept in "Cages" at the Border?* The Atlantic. <https://www.theatlantic.com/politics/archive/2018/06/ceci-nest-pas-une-cage/563072/>
- Granovetter, M. (1973). The Strength of Weak Ties. *American Journal of Sociology*, 78(6), 1360–1380.
- Haas, A. (2007). Wampum as Hypertext: An American Indian Intellectual Tradition of Multimedia Theory and Practice. *Studies in American Indian Literatures*, 19(4), 77–100. <https://doi.org/10.1353/ail.2008.0005>
- Haas, C. (1996). *Writing technology: Studies on the materiality of literacy*. Routledge.
- Hannam, K., Sheller, M., & Urry, J. (2006). Editorial: Mobilities, Immobilities and Moorings. *Mobilities*, 1(1), 1–22. <https://doi.org/10.1080/17450100500489189>
- Harrington, R., & Mark, M. (2019, August 27). *Federal agents can search your phone at the US border, even if you're a US citizen. Here's how to protect your personal information.* Business Insider. <https://www.businessinsider.com/can-us-border-agents-search-your-phone-at-the-airport-2017-2>
- Hartocollis, A. (2015, August 31). Migrants in Serbia Create Makeshift Charging Stations for Smartphones. *The New York Times*. phone-chargers
- Harvey, D. (1989). *The condition of postmodernity: An injury into the origins of cultural change*. Blackwell.
- Haskins, E. (2015). Ambient Commons: Attention in the Age of Embodied Information / Ambient Rhetoric: The Attunements of Rhetorical Being. *Quarterly Journal of Speech*, 101(1), 296–299. <https://doi.org/10.1080/00335630.2015.994886>
- Hayes, J. (2019). Trajectories of belonging and enduring technology: 2G phones and Syrian refugees in the Kurdistan Region of Iraq. *European Journal of Communication*, 34(6), 661–670. <https://doi.org/10.1177/0267323119886168>
- Henley, P. O. J. (2016, August 11). German proposals could see refugees' phones searched by police. *The Guardian*. <https://www.theguardian.com/world/2016/aug/11/germany-security-proposals-refugees-phones-searched-suspicious-posts-social-media>
- Hiller, H. H., & Franz, T. M. (2004). New ties, old ties and lost ties: The use of the internet in diaspora. *New Media & Society*, 6(6), 731–752. <https://doi.org/10.1177/146144804044327>
- Hjorth, L., & Lim, S. S. (2012). Mobile intimacy in an age of affective mobile media. *Feminist Media Studies*, 12(4), 477–484.

- Horn, H. (2015a, October 30). Coding a Way Out of the Refugee Crisis. *The Atlantic*. <https://www.theatlantic.com/international/archive/2015/10/apps-refugee-crisis-coding/413377/>
- Horn, H. (2015b, November 30). *The Refugee Crisis: There's an App for That—The Atlantic*. The Atlantic. <https://www.theatlantic.com/international/archive/2015/10/apps-refugee-crisis-coding/413377/>
- Horst, H. A., & Taylor, E. B. (2014). The role of mobile phones in the mediation of border crossings: A study of Haiti and the Dominican Republic. *The Australian Journal of Anthropology*, 25(2), 155–170. <https://doi.org/10.1111/taja.12086>
- Isaac, H., Leclercq, A., & Besseyre des Horts, C.-H. (2006). Adoption and appropriation: Towards a new theoretical framework. An exploratory research on mobile technologies in French companies. *Systèmes d'Information et Management*, 11(2), 9.
- Ito, M., Okabe, D., & Matsuda, M. (Eds.). (2005). *Personal, portable, pedestrian: Mobile phones in Japanese life*. MIT Press.
- Jackson, J. D., Yi, M. Y., & Park, J. S. (2010). Effects of individual innovativeness on physician acceptance of information technology. *International Journal of Services and Standards*, 6(1), 21–42. <https://doi.org/10.1504/IJSS.2010.034458>
- Janelle, D. (2004). Impact of Information Technologies. In *The Geography of Urban Transportation* (3rd Ed., pp. 86–112). Guilford Press.
- Jansen, Yolande, Celikates, R., & Bloois, J. de. (2014). *The Irregularization of Migration in Contemporary Europe: Detention, Deportation, Drowning*. Rowman & Littlefield International.
- Jensen, A. (2011). Mobility, Space and Power: On the Multiplicities of Seeing Mobility. *Mobilities*, 6(2), 255–271. <https://doi.org/10.1080/17450101.2011.552903>
- Jensen, A. (2013). Mobility Regimes and Borderwork in the European Community. *Mobilities*, 8(1), 35–51. a9h.
- Jensen, A., & Richardson, T. (2007). New Region, New Story: Imagining Mobile Subjects in Transnational Space. *Space and Polity*, 11(2), 137–150. <https://doi.org/10.1080/13562570701722014>
- Jensen, O. (2013). *Staging Mobilities*. Routledge, Taylor & Francis Group.
- Jensen, O., Sheller, M., & Wind, S. (2015). Together and Apart: Affective Ambiences and Negotiation in Families' Everyday Life and Mobility. *Mobilities*, 10(3), 363–382. <https://doi.org/10.1080/17450101.2013.868158>

- Jones, C. (2019, April 30). Smartphones, internet access are key tools of Venezuelan refugees. *Cronkite News - Arizona PBS*. <https://cronkitenews.azpbs.org/2019/04/30/venezuela-migrants-phones/>
- Kane, M. (2016, June 20). *Refugees in Greece need internet so badly that they'll stop a riot to let the wifi guys work*. Quartz. <https://qz.com/711529/refugees-in-greece-need-internet-so-badly-that-theyll-stop-a-riot-to-let-the-wifi-guys-work/>
- Kang, T. (2012). Gendered media, changing intimacy: Internet-mediated transnational communication in the family sphere. *Media, Culture & Society*, 34(2), 146–161. <https://doi.org/10.1177/0163443711430755>
- Kaplan, I. (2018, October 26). How Smartphones and Social Media have Revolutionized Refugee Migration. *UNHCR Blog*. <https://www.unhcr.org/blogs/smartphones-revolutionized-refugee-migration/>
- Kaplan, P. (2018). *Privacy Impact Assessment Update for the Border Surveillance Systems*. The US Department of Homeland Security.
- Kaufman, V., & Montulet, B. (2008). Between social and spatial mobilities. In W. Cranzier, V. Kaufmann, & S. Kesseiring (Eds.), *Tracing Mobilities: Towards a Cosmopolitan Perspective* (pp. 37–56). Ashgate.
- Kaufmann, K. (2016). The empowered refugee: The smartphone as a tool of resistance on the journey to Europe. *Selected Papers of AoIR 2016: The 17th Annual Conference*. Association of Internet Researchers, Berlin, Germany.
- Kaufmann, K. (2018). Navigating a new life: Syrian refugees and their smartphones in Vienna. *Information, Communication & Society*, 21(6), 882–898. <https://doi.org/10.1080/1369118X.2018.1437205>
- Kaufmann, V., Bergman, M. M., & Joye, D. (2004). Motility: Mobility as capital. *International Journal of Urban and Regional Research*, 28(4), 745–756. <https://doi.org/10.1111/j.0309-1317.2004.00549.x>
- Kaufmann, V., Dubois, Y., & Ravalet, E. (2018). Measuring and typifying mobility using motility. *Applied Mobilities*, 3(2), 198–213. <https://doi.org/10.1080/23800127.2017.1364540>
- Keightley, E., & Reading, A. (2014). Mediated mobilities. *Media, Culture & Society*, 36(3), 285–301. <https://doi.org/10.1177/0163443713517731>
- Keles, J. Y. (2016). Digital Diaspora and Social Capital. *Middle East Journal of Culture and Communication*, 9(3), 315–333. <https://doi.org/10.1163/18739865-00903004>
- Kellerman, A. (2006). *Personal Mobilities*. Routledge.

- Kellerman, A. (2012). Potential Mobilities. *Mobilities*, 7(1), 171–183.
<https://doi.org/10.1080/17450101.2012.631817>
- Kelly, M. G. E. (2013). Foucault, Subjectivity, and Technologies of the Self. In C. Falzon, T. O’Leary, & J. Sawicki (Eds.), *A Companion to Foucault* (pp. 510–525). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118324905.ch26>
- Khalaf, R. (2016, February 24). Technology comes to the rescue in migrant crisis. *Financial Times*.
- Kindangoor, A. (2019, February 7). *Behrouz Boochani documents humiliations of refugee detention*. Time: World News. <http://time.com/5520913/behrouz-boochani-manus-asylum-australia-book/>
- Kingsley, P. (2019, September 2). Life in an Internet Shutdown: Crossing Borders for Email and Contraband SIM Cards. *The New York Times*.
<https://www.nytimes.com/2019/09/02/world/africa/internet-shutdown-economy.html>
- Kingsley, P. (2020, April 9). Malta Accused of Sabotaging Migrant Boat. *The New York Times*.
<https://www.nytimes.com/2020/04/09/world/europe/malta-migrant-boat.html>
- Kotef, H. (2015). *Movement and the ordering of freedom: On liberal governances of mobility*. Duke University Press.
- Kronlid, D., Uteng, T. P., & Cresswell, T. (2008). Mobility as capability. In *Gendered mobilities* (pp. 15–34). Ashgate.
- Kutscher, N., & Kreß, L.-M. (2018). The Ambivalent Potentials of Social Media Use by Unaccompanied Minor Refugees. *Social Media + Society*, 4(1), 205630511876443.
<https://doi.org/10.1177/2056305118764438>
- Lasén, A., & Casado, E. (2012). Mobile Telephony and the Remediation of Couple Intimacy. *Feminist Media Studies*, 12(4), 550–559. <https://doi.org/10.1080/14680777.2012.741871>
- Latonero, M., & Kift, P. (2018). On Digital Passages and Borders: Refugees and the New Infrastructure for Movement and Control. *Social Media + Society*, 4(1), 2056305118764432. <https://doi.org/10.1177/2056305118764432>
- Lawson, D. (2015, September 27). *Smartphones are the secret weapon fueling the great migration invasion* [Daily Mail Feedback]. Daily Mail.
- Lemke, T. (2011). *Biopolitics: An Advanced Introduction*. NYU Press.
- Lemke, T. (2015). New Materialisms: Foucault and the ‘Government of Things.’ *Theory, Culture & Society*, 32(4), 3–25. <https://doi.org/10.1177/0263276413519340>
- Leonard, R. L. (2014). Multilingual Writing as Rhetorical Attunement. *College English*, 76(3), 227–247.

- Leurs, K. (2015). *Digital passages: Migrant youth 2.0 : diaspora, gender and youth cultural intersections*. Amsterdam : Amsterdam University Press, [2015].
- Leurs, K. (2017). Communication rights from the margins: Politicising young refugees' smartphone pocket archives. *International Communication Gazette*, 79(6–7), 674–698. <https://doi.org/10.1177/1748048517727182>
- Leurs, K., & Ponzanesi, S. (2018). Connected migrants: Encapsulation and cosmopolitanization. *Popular Communication*, 16(1), 4–20. <https://doi.org/10.1080/15405702.2017.1418359>
- Leurs, K., & Prabhakar, M. (2018). Doing Digital Migration Studies: Methodological Considerations for an Emerging Research Focus. In R. Zapata-Barrero & E. Yalaz (Eds.), *Qualitative Research in European Migration Studies* (pp. 247–266). Springer International Publishing. https://doi.org/10.1007/978-3-319-76861-8_14
- Leurs, K., & Smets, K. (2018). Five Questions for Digital Migration Studies: Learning From Digital Connectivity and Forced Migration In(to) Europe. *Social Media + Society*, 4(1), 205630511876442. <https://doi.org/10.1177/2056305118764425>
- Licoppe, C. (2018). *Assemblage or Arrangement* [Personal communication].
- Licoppe, C., & Inada, Y. (2006). Emergent Uses of a Multiplayer Location-aware Mobile Game: The Interactional Consequences of Mediated Encounters. *Mobilities*, 1(1), 39–61. <https://doi.org/10.1080/17450100500489221>
- Licoppe, C., & Inada, Y. (2013). When Urban Public Places Become “Hybrid Ecologies”: Proximity-based Game Encounters in Dragon Quest 9 in France and Japan. In R. Wilkens & G. Goggin (Eds.), *Mobile Technology and Place* (pp. 57–88). Routledge.
- Lievrouw, L. A. (2014). Materiality and Media in Communication and Technology Studies. In T. Gillespie, P. J. Boczkowski, & K. A. Foot (Eds.), *Media Technologies* (pp. 21–52). The MIT Press. <https://doi.org/10.7551/mitpress/9780262525374.003.0002>
- Lilja, M., & Vinthagen, S. (2014). Sovereign power, disciplinary power and biopower: Resisting what power with what resistance. *Journal of Political Power*, 7(1), 107–126.
- Lim, J. (2017). *Porous Borders: Multiracial Migrations and the Law in the U.S.-Mexico Borderlands*. University of North Carolina Press.
- Lindsay, F. (2019, June 21). *The U.K. 's £30,000 salary rule for migrants is not all it seems*. Forbes. <https://www.forbes.com/sites/freylindsay/2019/06/21/the-u-k-s-30000-salary-rule-for-migrants-is-not-all-it-seems/>
- Literat, I. (2017). Refugee Selfies and the (Self-)Representation of Disenfranchised Social Groups. *Media Fields Journal*, 10.

- Loong, S. (2019). The neoliberal borderscape: Neoliberalism's effects on the social worlds of migrants along the Thai-Myanmar border. *Political Geography*, 74, 102035. <https://doi.org/10.1016/j.polgeo.2019.102035>
- Lorenzini, D. (2016). From Counter-Conduct to Critical Attitude: Michel Foucault and the Art of Not Being Governed Quite So Much. *Foucault Studies*, 7–21. <https://doi.org/10.22439/fs.v0i0.5011>
- Lyneham, C. (2017, September 11). *EU's migrant fingerprinting system Eurodac under review*. DW.COM. <https://www.dw.com/en/eus-migrant-fingerprinting-system-eurodac-under-review/a-41311572>
- Machman, M. (2013, May 8). Syria and 7 other places the internet has been shut off. *PC Magazine*. <https://www.pcmag.com/feature/311237/>
- Mackay, H., & Gillespie, G. (1992). Extending the Social Shaping of Technology Approach: Ideology and Appropriation. *Social Studies of Science*, 22(4), 685–716. <https://doi.org/10.1177/030631292022004006>
- Madianou, M. (2016). Ambient co-presence: Transnational family practices in polymedia environments. *Global Networks*, 16(2), 183–201. <https://doi.org/10.1111/glob.12105>
- Madianou, M. (2019). The Biometric Assemblage: Surveillance, Experimentation, Profit, and the Measuring of Refugee Bodies. *Television & New Media*, 20(6), 581–599. <https://doi.org/10.1177/1527476419857682>
- Madianou, M., & Miller, D. (2011). Mobile phone parenting: Reconfiguring relationships between Filipina migrant mothers and their left-behind children. *New Media & Society*, 13(3), 457–470.
- Madianou, M., & Miller, D. (2013). Polymedia: Towards a new theory of digital media in interpersonal communication. *International Journal of Cultural Studies*, 16(2), 169–187. <https://doi.org/10.1177/1367877912452486>
- Mancini, T., Sibilla, F., Argiropoulos, D., Rossi, M., & Everri, M. (2019a). The opportunities and risks of mobile phones for refugees' experience: A scoping review. *PloS One*, 14(12), e0225684–e0225684. <https://doi.org/10.1371/journal.pone.0225684>
- Mancini, T., Sibilla, F., Argiropoulos, D., Rossi, M., & Everri, M. (2019b). The opportunities and risks of mobile phones for refugees' experience: A scoping review. *PloS One*, 14(12), e0225684–e0225684. <https://doi.org/10.1371/journal.pone.0225684>
- Manderscheid, K., Schwanen, T., & Tyfield, D. (2014). Introduction to Special Issue on 'Mobilities and Foucault.' *Mobilities*, 9(4), 479–492. <https://doi.org/10.1080/17450101.2014.961256>
- Manderscheid, K., Schwanen, T., & Tyfield, D. (2015). *Mobilities and Foucault*. Routledge.

- Markham, A. N. (1998). *Life Online: Researching Real Experience in Virtual Space*. Rowman Altamira.
- Marlowe, J. (2019). Social Media and Forced Migration: The Subversion and Subjugation of Political Life. *Media and Communication*, 7(2), 173–183.
<https://doi.org/10.17645/mac.v7i2.1862>
- Martin, M. (2014). *Prioritising Border Control Over Human Lives: Violations of the Rights of Migrants and Refugees at Sea*. Euro-Mediterranean Human Rights Network (EMHRN).
<https://www.refworld.org/pdfid/56fccbcbd.pdf>
- Martineau, P. (2019, October 11). *Turkish ISP Blocks Social Media Sites Near Syrian Border / WIRED*. Wired. <https://www.wired.com/story/turkish-isp-blocks-social-media-syrian-border/>
- Mascisaac, M. K. (2015, July 30). *Need is the Mother of All Invention: Syrian refugees using innovation to improve their lives* [Text]. CARE. <https://www.care.org/impact/stories/-syrian-refugees-using-innovation-improve-their-lives>
- Massey, D. (1993). Power-geometry and a progressive sense of place. In J. Bird, B. Curtis, & L. Tickner (Eds.), *Mapping the futures: Local cultures, global change* (D. H. Hill Jr. Library (Call Number: HM101 .M266); pp. 59–69). Routledge.
- Massey, D. (1994). *Space, place, and gender* (D. H. Hill Jr. Library (Call Number: GF95 .M37)). Minneapolis: University of Minnesota Press, 1994.
catalog.lib.ncsu.edu/catalog/NCSU846144
- Mattelart, T. (2019). Media, communication technologies and forced migration: Promises and pitfalls of an emerging research field. *European Journal of Communication*, 34(6), 582–593. <https://doi.org/10.1177/0267323119886146>
- Maytom, T. (2015, October 26). *Google Launches App to Aid with European Refugee Crisis*. Mobile Marketing Magazine. <http://mobilemarketingmagazine.com/google-launches-app-to-aid-with-european-refugee-crisis/>
- McCaffrey, K. T., & Taha, M. C. (2019). Rethinking the Digital Divide: Smartphones as Translanguaging Tools Among Middle Eastern Refugees in New Jersey. *Annals of Anthropological Practice, Journal Article*. <https://doi.org/10.1111/napa.12126>
- McLuhan, M. (1964). The medium is the message. In *Understanding Media: The Extensions of Man*. McGraw-Hill.
- Merriman, P. (2016). Mobility Infrastructures: Modern Visions, Affective Environments and the Problem of Car Parking. *Mobilities*, 11(1), 83–98. a9h.
- Meyrowitz, J. (1986). *No Sense of Place: The Impact of Electronic Media on Social Behavior*. Oxford University Press.

- Meyrowitz, J. (2005). The rise of glocality: New senses of place and identity in the global village. In K. Nyíri (Ed.), *The global and the local in mobile communication* (pp. 21–30). Passagen Verlag.
- Mezzadra, S., & Neilson, B. (2013). *Border as Method, or, the Multiplication of Labor*. Duke University Press.
- Morioka, M. (2007). Commentary: Constructing Creative Appropriations. *Culture & Psychology*, 13(2), 189–196. <https://doi.org/10.1177/1354067X07076606>
- Murphy, M. (2010). Technology, governmentality, and population control. *History and Technology*, 26(1), 69–76. <https://doi.org/10.1080/07341510903545615>
- Nail, T. (2015). *The Figure of the Migrant*. Stanford University Press.
<http://ebookcentral.proquest.com/lib/ncsu/detail.action?docID=3568962>
- Nail, T. (2016). *Theory of the border*. Oxford University Press.
- Nail, T. (2017). What is an Assemblage? *SubStance*, 46(1), 21–37.
<https://doi.org/10.3368/ss.46.1.21>
- Nail, T. (2018). *Being and Motion*. Oxford University Press.
- Nail, T. (2019). Kinopolitics: Borders in Motion. In R. Braidotti & S. Bignall (Eds.), *Posthuman ecologies: Complexity and process after Deleuze* (pp. 183–203). Rowman & Littlefield International Ltd.
- Newell, B. C., Gomez, R., & Guajardo, V. E. (2016). Information seeking, technology use, and vulnerability among migrants at the United States–Mexico border. *The Information Society*, 32(3), 176–191. <https://doi.org/10.1080/01972243.2016.1153013>
- Nicholson, J. A., & Sheller, M. (2016). Race and the Politics of Mobility—Introduction. *Transfers*, 6(1). <https://doi.org/10.3167/TRANS.2016.060102>
- Nixon, R. (2018, September 18). *U.S. Loses Track of Another 1,500 Migrant Children, Investigators Find*. The New York Times.
<https://www.nytimes.com/2018/09/18/us/politics/us-migrant-children-whereabouts-.html>
- Norman, D. (2013). *The Design of Everyday Things: Revised and Expanded Edition*. Basic Books.
- Nussbaum, M. C. (2001). *Women and Human Development: The Capabilities Approach*. Cambridge University Press.
- Oakeshott, N., Marskell, J., & Behihrwe, M. (2018, June 19). Empowering refugees and internally displaced persons through digital identity. *UNHCR Blog*.
<https://www.unhcr.org/blogs/empowering-refugees-internally-displaced-persons-digital-identity/>

- Odysseos, L., Death, C., & Malmvig, H. (2016). Interrogating Michel Foucault's Counter-Conduct: Theorising the Subjects and Practices of Resistance in Global Politics. *Global Society*, 30(2), 151–156. <https://doi.org/10.1080/13600826.2016.1144568>
- O'Malley, J. (2015, September 7). *Surprised that Syrian refugees have smartphones? Sorry to break this to you, but you're an idiot* [News]. The Independent.
- Ong, J. (2019, October 1). *Service problems continue to plague many Verizon Wireless customers in San Diego*. ABC News San Diego. <https://www.10news.com/news/local-news/service-problems-continue-to-plague-many-verizon-wireless-customers-in-san-diego>
- Ono, K. (2012). Borders that travel: Matters of the figural border. In D. R. DeChaine (Ed.), *Border Rhetorics: Citizenship and Identity on the US-Mexico Frontier* (pp. 19–32). University of Alabama Press.
- Papadopoulos, D., & Tsianos, V. S. (2013). After citizenship: Autonomy of migration, organisational ontology and mobile commons. *Citizenship Studies*, 17(2), 178–196. <https://doi.org/10.1080/13621025.2013.780736>
- Paragas, F. (2009). Migrant workers and mobile phones: Technological, temporal, and spatial simultaneity. In R. Ling (Ed.), *The Reconstruction of Space and Time: Mobile Communication Practices* (pp. 39–65). Routledge.
- Parks, L. (2013). Earth Observation and Signal Territories: Studying U.S. Broadcast Infrastructure through Historical Network Maps, Google Earth, and Fieldwork. *Canadian Journal of Communication*, 38(3). <https://doi.org/10.22230/cjc.2013v38n3a2736>
- Parks, L., & Starosielski, N. (2015). *Signal Traffic: Critical Studies of Media Infrastructures*. University of Illinois Press.
- PC Magazine. (2019). *Definition of CCTV*. PCMAG. <https://www.pcmag.com/encyclopedia/term/cctv>
- Pellegrino, G. (2013). Migrants' connected worlds and mediated transnational boundaries. *Transfers*, 3(2), 152. <https://doi.org/10.3167/TRANS.2013.030211>
- Perry-Smith, J. E., & Shalley, C. E. (2003). The Social Side of Creativity: A Static and Dynamic Social Network Perspective. *The Academy of Management Review*, 28(1), 89–106. <https://doi.org/10.2307/30040691>
- Pew Research Center. (2016, August 2). *Asylum seeker demography: Young and male*. Pew Research Center's Global Attitudes Project. <https://www.pewresearch.org/global/2016/08/02/4-asylum-seeker-demography-young-and-male/>
- Ponzanesi, S., & Leurs, K. (2014). On digital crossings in Europe. *Crossings: Journal of Migration & Culture*, 5(1), 3–22.

- Preston, J. (2011, January 14). Homeland Security Cancels ‘Virtual Fence’ After \$1 Billion Is Spent. *The New York Times*.
<https://www.nytimes.com/2011/01/15/us/politics/15fence.html>
- Prøitz, L., Hjorth, L., & Lasén, A. (2017). Textures of intimacy. In R. Andreassen, M. N. Petersen, K. Harrison, & T. Raun (Eds.), *Mediated Intimacies* (pp. 60–72). Routledge.
- Rajaram, P. K., & Grundy-Warr, C. (2007). *Borderscapes: Hidden Geographies and Politics at Territory's Edge*. University of Minnesota Press.
<http://ebookcentral.proquest.com/lib/ncsu/detail.action?docID=340771>
- Ramsey, G. (2011, September 7). Mexico’s Gangs Use “Narco-Tunnels” to Smuggle Migrants. *InSight Crime*. <https://www.insightcrime.org/news/analysis/mexicos-gangs-use-narco-tunnels-to-smuggle-migrants/>
- Rickert, T. (2013). *Ambient Rhetoric: The Attunements of Rhetorical Being*. University of Pittsburgh Press. <https://doi.org/10.2307/j.ctt5hjqlwx.7>
- Rijpma, J., & Vermeulen, M. (2015). EUROSUR: Saving lives or building borders? *European Security*, 24(3), 454–472. <https://doi.org/10.1080/09662839.2015.1028190>
- Risam, R. (2018). Now you see them: Self-representation and the refugee selfie. *Popular Communication*, 16(1), 58–71. <https://doi.org/10.1080/15405702.2017.1413191>
- Robertson, Z., Wilding, R., & Gifford, S. M. (2016). Mediating the family imaginary: Young people negotiating absence in transnational refugee families. *Global Networks*, 16(2), 219–236. <https://doi.org/10.1111/glob.12111>
- Rogers, E. M. (1962). *Diffusion of innovations* (3rd ed). Free Press: Collier Macmillan.
- Romenzi, A. (2017, February 28). *Migrating children and women, suffer ‘sexual violence, exploitation, abuse and detention*. <https://news.un.org/en/story/2017/02/552322-migrating-children-and-women-suffer-sexual-violence-exploitation-abuse-and>
- Rose, N. (2006). *The Politics of Life Itself: Biomedicine, Power, Subjectivity in the Twenty-First Century*. Princeton University Press.
- Rosenblum, M. (2017). *This Is Why Refugees Have Smartphones*. HuffPost.
https://www.huffpost.com/entry/this-is-why-refugees-have_b_9959948
- Rostad, N. (2018, April 16). In Mexico, satellite and Wi-Fi come together to bring internet to remote areas. *Inside Viasat Blog*. <https://corpblog.viasat.com/how-satellite-and-wi-fi-come-together-to-bring-internet-to-remotest-mexico/>
- Rubi, M. (2018, October 24). *Lone children among most vulnerable in human “caravan.”* UNHCR. <https://www.unhcr.org/news/latest/2018/10/5bcf21794/lone-children-among-vulnerable-human-caravan.html>

- Rutkin, A. (2019, December 19). *US-Mexico border News, Research and Analysis: Battle at the border*. The Conversation. <https://theconversation.com/battle-at-the-border-5-essential-reads-on-asylum-citizenship-and-the-right-to-live-in-the-us-126647>
- Sacchetti, M. (2019, July 10). 'Kids in cages': House hearing examines immigration detention as Democrats push for more information. Washington Post. https://www.washingtonpost.com/immigration/kids-in-cages-house-hearing-to-examine-immigration-detention-as-democrats-push-for-more-information/2019/07/10/3cc53006-a28f-11e9-b732-41a79c2551bf_story.html
- Salovaara, A., Helfenstein, S., & Oulasvirta, A. (2011). Everyday appropriations of information technology: A study of creative uses of digital cameras. *Journal of the American Society for Information Science and Technology*, 62(12), 2347–2363. <https://doi.org/10.1002/asi.21643>
- Salter, M. B. (2013). To Make Move and Let Stop: Mobility and the Assemblage of Circulation. *Mobilities*, 8(1), 7–19. <https://doi.org/10.1080/17450101.2012.747779>
- Sánchez-Querubín, N., & Rogers, R. (2018). Connected Routes: Migration Studies with Digital Devices and Platforms. *Social Media + Society*, 4(1), 205630511876442. <https://doi.org/10.1177/2056305118764427>
- Sanderson, S. (2019, January 11). Young male refugee struggle with disappointment and mental health issues. *Info Migrants*.
- Sassi, S. (2005). Cultural differentiation or social segregation? Four approaches to the digital divide. *New Media & Society*, 7(5), 684–700. <https://doi.org/10.1177/1461444805056012>
- Schivelbusch, W. (1977). *The railway journey: The industrialization of time and space in the 19th century*. The University of California Press.
- Schmitt, E., Haberman, M., & Wong, E. (2019, October 15). President Endorses Turkish Military Operation in Syria, Shifting U.S. Policy. *The New York Times*.
- Schwartz, D. (2016, September 16). Arizona police will no longer stop people to check immigration status. *Reuters*. <https://www.reuters.com/article/us-arizona-immigration-idUSKCN11M05D>
- Semple, K. (2016, September 23). Haitians, After Perilous Journey, Find Door to U.S. Abruptly Shut. *The New York Times*. <https://www.nytimes.com/2016/09/24/world/americas/haitians-mexico-brazil-deport-united-states.html>
- Sen, A. (1985). *Commodities and Capabilities*. North Holland.
- Sen, A. (1993). In M. Nussbaum (Ed.), *The Quality of Life*. Clarendon Press.

- Shachtman, N. (2012, November 29). Syria has just been taken offline. *Wired*.
<https://www.wired.com/2012/11/syria-offline/>
- Shapiro, A. (2019). *Asylum Seeker Wins Australia's Biggest Literary Prize, But Can't Accept It In Person*. NPR.Org. <https://www.npr.org/2019/02/26/698342822/asylum-seeker-wins-australias-biggest-literary-prize-but-can-t-accept-it-in-pers>
- Sheller, M. (2009). Infrastructures of the Imagined Island: Software, Mobilities, and the Architecture of Caribbean Paradise. *Environment and Planning A: Economy and Space*, 41(6), 1386–1403. <https://doi.org/10.1068/a41248>
- Sheller, M. (2013a). Mobile mediality: Locations, dislocations, augmentation. In S. Kesseiring, G. Vogl, & S. Witzgall (Eds.), *New Mobilities Regimes: The Analytical Power of Social Sciences and Arts*. Ashgate.
- Sheller, M. (2013b). The islanding effect: Post-disaster mobility systems and humanitarian logistics in Haiti. *Cultural Geographies*, 20(2), 185–204.
<https://doi.org/10.1177/1474474012438828>
- Sheller, M. (2014). The new mobilities paradigm for a live sociology. *Current Sociology Review*, 62(6), 789–811.
- Sheller, M. (2015). News Now: Interface, ambience, flow, and the disruptive spatio-temporalities of mobile news media. *Journalism Studies*, 16(1), 12–26.
<https://doi.org/10.1080/1461670X.2014.890324>
- Sheller, M. (2016). Uneven Mobility Futures: A Foucauldian Approach. *Mobilities*, 11(1), 15–31. <https://doi.org/10.1080/17450101.2015.1097038>
- Sheller, M. (2018a). Globalizing networked urbanism: Entanglements of elite and subaltern mobilities. In M. Freudendal-Pedersen & S. Kesselring (Eds.), *Exploring networked urban mobilities: Theories, concepts, ideas* (pp. 19–35). Routledge.
- Sheller, M. (2018b). *Mobility justice: The politics of movement in an age of extremes*. Verso.
- Sheller, M., & Urry, J. (2006). The New Mobilities Paradigm. *Environment and Planning A: Economy and Space*, 38(2), 207–226. <https://doi.org/10.1068/a37268>
- Shoshana, A. (2012). Governmentality, new population and subjectivity. *Subjectivity*, 5(4), 396–415. <https://doi.org/10.1057/sub.2012.19>
- Sidaway, James D. (2011). The Return and Eclipse of Border Studies? Charting Agendas. *Geopolitics*, 16(4), 969–976. <https://doi.org/10.1080/14650045.2011.567095>
- Smets, K. (2018). The way Syrian refugees in Turkey use media: Understanding “connected refugees” through a non-media-centric and local approach. *Communications: The European Journal of Communication Research*, 43(1), 113–123.
<https://doi.org/10.1515/commun-2017-0041>

- Smith, H. (2015, September 2). Shocking images of drowned Syrian boy show tragic plight of refugees. *The Guardian*. <https://www.theguardian.com/world/2015/sep/02/shocking-image-of-drowned-syrian-boy-shows-tragic-plight-of-refugees>
- Smith, M. R., Marx, L., & Marx, P. E. of the P. in S. T. and S. L. (1994). *Does Technology Drive History?: The Dilemma of Technological Determinism*. MIT Press.
- Soboroff, J. (2019, January 16). *Trump claims walls work, but the discovery of border tunnels says otherwise*. NBC News. <https://www.nbcnews.com/politics/immigration/trump-claims-walls-work-discovery-border-tunnels-says-otherwise-n959311>
- St. George, T. V. (2017). *“As important to me as water”: How refugees in Rome use smartphones to improve their well-being*. Massey University.
- Tagaris, K. (2016, June 16). Sun-powered phone charger gives migrants in Greece free electricity—Reuters. *Reuters*. <https://www.reuters.com/article/us-europe-migrants-greece-solar/sun-powered-phone-charger-gives-migrants-in-greece-free-electricity-idUSKCN0Z22FP>
- Tau, B., & Hackman, M. (2020, February 7). *Federal Agencies Use Cellphone Location Data for Immigration Enforcement*—WSJ. The Wall Street Journal. <https://www.wsj.com/articles/federal-agencies-use-cellphone-location-data-for-immigration-enforcement-11581078600>
- Tofighian, O. (2018, July 31). *Writing from Manus prison: A scathing critique of domination and oppression*. The Guardian. <https://www.theguardian.com/commentisfree/2018/jul/31/writing-from-manus-prison-a-scathing-critique-of-domination-and-oppression>
- Trimikliniotis, N., Parsanoglou, D., & Tsianos, V. (2015). *Mobile Commons, Migrant Digitalities and the Right to the City*. Palgrave Macmillan.
- Trimikliniotis, N., Parsanoglou, D., & Tsianos, V. S. (2016). Mobile Commons and/in Precarious Spaces: Mapping Migrant Struggles and Social Resistance. *Critical Sociology*, 42(7–8), 1035–1049. <https://doi.org/10.1177/0896920515614983>
- UNHCR. (2016, March 16). *“Refugees” and “Migrants” – Frequently Asked Questions*. UNHCR. <https://www.unhcr.org/news/latest/2016/3/56e95c676/refugees-migrants-frequently-asked-questions-faqs.html>
- UNESCO. (1985). *The right to communicate: Report by the Director-General*. UNESCO Digital Archives. <https://unesdoc.unesco.org/ark:/48223/pf0000065817>
- UNHCR. (2015). *Women on the Run: First-hand Accounts of Refugees Fleeing El Salvador, Guatemala, Honduras, and Mexico, A Study Conducted by the United Nations High Commissioner for Refugees*. UNHCR: The UN Refugee Agency. <https://www.unhcr.org/publications/operations/5630f24c6/women-run.html>

- UNICEF. (2017). *A Deadly Journey for Children: The Central Mediterranean Migrant Route* (p. 20). <https://www.unicef.de/blob/135970/6178f12582223da6980ee1974a772c14/a-deadly-journey-for-children---unicef-report-data.pdf>
- USCIS. (2015, July 17). *Questions & Answers: Asylum Interviews*. USCIS. <https://www.uscis.gov/archive/questions-answers-asylum-interviews>
- USCIS. (2019a). *EB-5 Immigrant Investor Program*. USCIS. <https://www.uscis.gov/eb-5>
- USCIS. (2019b). *I-589, Application for Asylum and for Withholding of Removal*. USCIS. <https://www.uscis.gov/i-589>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27(3), 425–478. <https://doi.org/10.2307/30036540>
- Venkatesh, V., & Zhang, X. (2010). Unified Theory of Acceptance and Use of Technology: U.S. Vs. China. *Journal of Global Information Technology Management*, 13(1), 5–27. <https://doi.org/10.1080/1097198X.2010.10856507>
- Villagran, L. (2015, May 12). *Border States Face Broadband Issues with Mexico*. Government Technology. <https://www.govtech.com/network/Border-States-Face-Broadband-Issues-with-Mexico.html>
- Vukov, T. (2016). Target Practice: The Algorithmics and Biopolitics of Race in Emerging Smart Border Practices and Technologies. *Transfers; Oxford*, 6(1), 80–97. <http://dx.doi.org.prox.lib.ncsu.edu/10.3167/TRANS.2016.060107>
- Vukov, T., & Sheller, M. (2013). Border work: Surveillant assemblages, virtual fences, and tactical counter-media. *Social Semiotics*, 23(2), 225–241. <https://doi.org/10.1080/10350330.2013.777592>
- Walsh, K. (2009). Geographies of the Heart in Transnational Spaces: Love and the Intimate Lives of British Migrants in Dubai. *Mobilities*, 4(3), 427–445. <https://doi.org/10.1080/17450100903195656>
- Waltz, K. N. (1954). *Man, the State, and War: A Theoretical Analysis*. Columbia University Press.
- Westerman, A. (2019). *An Asylum-Seeker Wrote A Book By Phone Texts From Manus Island Detention*. NPR.Org. <https://www.npr.org/2018/08/06/634881408/an-asylum-seeker-wrote-a-book-by-phone-texts-from-manus-island-detention>
- Wiley, S. B. C., Becerra, T. M., & Sutko, D. M. (2012). Subjects, networks, assemblages: A materialist approach to the production of social space. In J. Packer & S. B. C. Wiley (Eds.), *Communication matters: Materialist approaches to media, mobility, and networks* (pp. 183–195). Routledge.

- Wirth, W., von Pape, T., & Karnowski, V. (2008). An Integrative Model of Mobile Phone Appropriation. *Journal of Computer-Mediated Communication*, 13(3), 593–617. <https://doi.org/10.1111/j.1083-6101.2008.00412.x>
- Witty, P. (2015, November 8). *See How Smartphones Have Become a Lifeline for Refugees* / *Time.com*. Time Magazine. <https://time.com/4062120/see-how-smartphones-have-become-a-lifeline-for-refugees/>
- Wolfram Cox, J., & Minahan, S. (2004). Unravelling Woomera: Lip sewing, morphology and dystopia. *Journal of Organizational Change Management*, 17(3), 292–301. <https://doi.org/10.1108/09534810410538342>
- Worley, W. (2016, May 12). *Syrian woman explains why refugees need smartphones* [News]. The Independent.
- WPTV News. (2018, June 14). *Boaters Skip Customs Line with New App*. <https://www.youtube.com/watch?v=pNJwCRkwoO8>
- Young, E. (2014). *Alien Nation: Chinese Migration in the Americas from the Coolie Era through World War II*. University of Chapel Hill Press.
- Yu, Q., Huang, P., & Liu, L. (2017). From “connected presence” to “panoptic presence”: Reframing the parent–child relationship on mobile instant messaging uses in the Chinese translocal context. *Mobile Media & Communication*, 5(2), 123–138. <https://doi.org/10.1177/2050157916688348>
- Yuan, L. (2018, August 6). A Generation Grows Up in China Without Google, Facebook or Twitter. *The New York Times*. <https://www.nytimes.com/2018/08/06/technology/china-generation-blocked-internet.html>
- Yuval-Davis, N., Wemyss, G., & Cassidy, K. (2019). *Bordering*. John Wiley & Sons.