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Information seeking, technology use, and vulnerability among migrants at the United States–Mexico border

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ABSTRACT

Through interviews with migrants and migrant aid-workers at a shelter in the border town of Nogales, Mexico, we examine how undocumented migrants are seeking, acquiring, understanding, and using information prior to, and during, migration across the United States–Mexico border. Our study examines migrants' perceptions of humanitarian service and the use of so-called "border disturbance technologies" by activists to help prevent the death of migrants in the desert, finding that migrants appreciate water-caching efforts but generally distrust technologies they feel could subject them to surveillance by border agents. Exploratory in nature and based on a small sample, our findings are not necessarily representative of the broader population, but provide rich evidence of the prevalence of word-of-mouth information seeking and use of cell phones over other information technologies, and explore the ambivalent nature of information technology use in the vulnerable setting of life at the border. In particular, we find that mobile phones help migrants meet their communication needs, but also increase their exposure to crime and abuse.

Sitting in a small migrant shelter in Nogales, Mexico, just a few hundred yards from the Arizona border, we are surrounded by dozens of migrants sitting at picnic-style tables waiting for breakfast to be served by a small number of volunteers. The shelter has a concrete floor and chain-link fencing for walls, covered with banners to keep out the sun and the prying eyes of "coyotes" and their recruiters. The volunteers at the shelter include Catholic nuns, a Jesuit priest, two Jesuit novices, representatives from United States-based humanitarian aid organizations, and other volunteers. The migrants being served at the shelter come from many places, and they are all moved by the same desire to make a better life for themselves and their families. They all express deeply felt reactions to the ever-looming barriers that separate them from their intended destinations, including the wall (miles of metal fencing at the border, cutting across town and extending well into the desert), large numbers of Border Patrol agents in sports utility vehicles (SUVs) and on all-terrain vehicles (ATVs), and lurking surveillance camera arrays and other technologies deployed in plain sight next to the wall. For some migrants, the sight of the wall is a familiar one—

they've crossed, or attempted the crossing, a number of times before—but for others, the first sighting of the wall elicits feelings of futility, frustration, and despair.

"Keep moving," warns the Jesuit priest who helps run the shelter, "go somewhere else as soon as possible." The border region is a dangerous place for migrants; at the border, they are vulnerable to abuse by criminals, human and drug traffickers, and even local police. In addition to figuring out where they will sleep or eat tonight (or charge their cell phone), how do they avoid being tricked, robbed, or caught? How can they find a trustworthy guide? How will they communicate with family members without exposing them, too, to extortion and abuse? In this context, can information technologies help, or do they get in the way?

At the shelter, only two of the migrants we encounter had been serving prison time in the United States, and they were deported immediately after being released. They are happy to be free, and looking forward to rebuilding their future south of the border. On the other hand, some of the migrants we speak to have just arrived at the border for the first time and are looking for ways to attempt their first crossing into the United States.

They carry their hopes and dreams in their backpacks and look forward to a future better than what they left behind: dreaming of prosperity north of the border. Nonetheless, the majority of the migrants we encounter at the shelter have just been deported from the United States, some as early as that same morning, others up to a week before. They were deported either after being caught attempting to cross the border clandestinely or after living and working for months or years in the United States, where they have left homes, jobs, spouses, or children. These recently deported migrants left everything behind, some up north, some down south. And they want to return.

Torn between where they come from and where they want to be, these migrants are at the threshold between two worlds. Standing at that critical juncture, life at the border is a transient life: a life "in between" that is neither here nor there. They are living one of the most intense, fragile, and vulnerable moments in their experience as migrants (and possibly as human beings).

To better understand the experiences of migrants at this vulnerable stage in their migration journey, we went to the United States–Mexico border in Nogales (Mexico and Arizona) in 2014, seeking to answer the following research questions: (1) How do migrants get the information they need to reach and cross the border? (2) How do they use information and communication technologies (ICTs) such as mobile phones, computers, and the Internet to assist their border-crossing initiatives? (3) How do they perceive various humanitarian and activist efforts, on the northern side of the border, that attempt to help migrants find food, water, or other supplies during their dangerous border-crossing treks? These questions all relate to the broader notions of "information practices"—defined by Lingel and boyd (2013) as "ways that people locate, use, share, and evaluate information"—and "information poverty" (Chatman 1996; 1999) that have become important aspects of human-information behavior research.

This study, because of the relatively small sample of interviews (33 migrants, 13 aid-workers, and one Border Patrol agent) conducted at only a single location at the United States–Mexico border, has limited generalizability. However, the topic is so urgent and unexplored, and the experiences are so vivid and dramatic, that we feel our current findings can offer valuable insights for future research, even if they are not necessarily representative of a larger population.

In 2014, the situation of undocumented migrants at the United States–Mexico border gained a lot of media attention, with a particular focus on the apprehension of thousands of unaccompanied and undocumented minors at the border. Dealing with this crisis (or failing to do so) has become an important political issue for the U.S. government. Furthermore, in 2015, popular attention to issues of migration shifted to Europe, with the massive influx of migrants and refugees from Syria and other countries in the Middle East and Africa—and the increased numbers of deaths in the Mediterranean—posing a tremendous administrative and humanitarian burden for the European Union and its neighbors. As a way to contribute to a deeper understanding of these issues, the preliminary findings we present here help provide a more nuanced exploration of the information behaviors and the uses and perceptions of information technologies by Hispanic undocumented migrants at the time of their border-crossing experience into the United States. As a contribution to studies on immigration and information, we link these issues to broader notions of social justice and immigrant transnationalism from the perspective of information studies.

The United States–Mexico border: Humanitarian responses to the "analogous social injury" of border enforcement

The border between Mexico and the United States stretches for about 2,000 miles (Bolkcom 2004; Beaver 2006), from San Diego, CA, to Brownsville, TX. It is the busiest land border in the world, and the most heavily patrolled. Of the U.S. Border Patrol's 21,391 Border Patrol agents in fiscal year (FY) 2013, 87% (18,611) were stationed in the nine sectors along the southwest border (in California and Arizona). In recent years, the Border Patrol's Tucson Sector, which includes Nogales, has been one of the busiest and most heavily guarded in the United States. In FY 2013, 22% of all Border Patrol agents along the United States–Mexico border were stationed in the Tucson Sector (4,135 agents, which also accounts for 19% of all agents nationwide). The Tucson Sector was also the location of the highest number of apprehensions of clandestine or undocumented migrants from 1998 (when it surpassed San Diego) until 2013 (when the Rio Grande Valley Sector's apprehensions more than doubled after 2011). See Figure 1, which includes a map of the United States–Mexico border, the distribution of Border Patrol agents and their predominance in the Tucson Sector, and numbers of apprehensions of undocumented border crossers in FY 2013.[1]

Over the past century, border enforcement has transitioned from a relatively overlooked aspect of federal law enforcement to a highly politicized and visible component of American life. The U.S. Immigration Service was originally entrusted to patrol the border and prevent illegal crossings in 1904 (U.S. Customs and Border

Figure 1. Border Patrol agents and apprehensions, 2013.

Protection 2013), and by 1925 there were 111 border inspectors, rising to 725 in 1930 due to the illicit liquor trade sparked by prohibition (Andreas 2009). The number of Border Patrol officers doubled from 3,389 to 8,200 between 1993 and October 1999 (Andreas 2009), and the current number of agents represents more than a 630% increase since 1993.

There are many dangers present in the journey across Mexico to the wall itself. They include riding on top of a network of freight trains known as *El Tren de la Muerte* ("The Death Train") or *La Bestia* ("The Beast"), and bands of organized criminals along the way. Once at the border, there are additional dangers, and many die due to heat, and due to lack of food and water in the remote areas where they were crossing. Increased fencing, security, Border Patrol presence along the border, especially near more urban areas, and use of surveillance technologies such as sensors and cameras have all driven border-crossing migrants into harsher, more remote regions. During the last two decades, thousands of undocumented immigrants have died while attempting to cross the international border between the United States and Mexico, as displayed in Figure 2, a map showing the estimated 706 migrant deaths in the Tucson Sector alone from 2010 to 2013.[2] Academic research (Rubio-Goldsmith et al. 2006) and research prepared by the Congressional Research Service at the Library of Congress (Nuñez-Neto and Viña 2006; Haddal, Kim, and Garcia 2009) suggests a causal link between the U.S. government's border control policies and rapidly increasing numbers of migrant deaths.

According to Michalowski (2007), the official interventions at the border by the U.S. government have produced what is called "analogous social injury"—that is,

interventions that, despite being legally permissible, result in bodily harms and deprivation, and should be seen as "the sociological equivalents of crime" (63). In this light, the federal policies and interventions to enforce border protection in the United States have made the process of undocumented migration into the United States much more dangerous, in too many cases leading to bodily harm, deprivation, or death. Furthermore, the "funnel effect" (Rubio-Goldsmith et al. 2006) that was intended to discourage migration and lower the numbers of undocumented migrants willing to make the more dangerous journey around the fenced areas has not worked. Migration numbers increased dramatically after the Border Patrol's strategic initiatives were launched with "Operation Blockade" (subsequently renamed "Operation Hold the Line") and "Operation Gatekeeper" in 1993 and 1994, respectively, and even as migration rates have leveled out in very recent years, the number of reported migrant deaths has continued to increase or at least remain steady. Additionally, as reports have begun to indicate that the heightened Border Patrol presence in Arizona may be shifting migration into Texas (Lipton and Preston 2013), the number of deaths in Arizona continues to remain high (with 169 unidentified border-crosser deaths reported by the Pima County Medical Examiner in 2013, 12 more than in 2012; personal communication).

In response to the rising number of migrant deaths at the border, humanitarian organizations and volunteers have initiated relief activities to support migrants, including leaving food and water in small caches along the migratory trails. Some of these organizations also began mapping migrant water use (and migrant deaths) through the use of geographic information systems, and
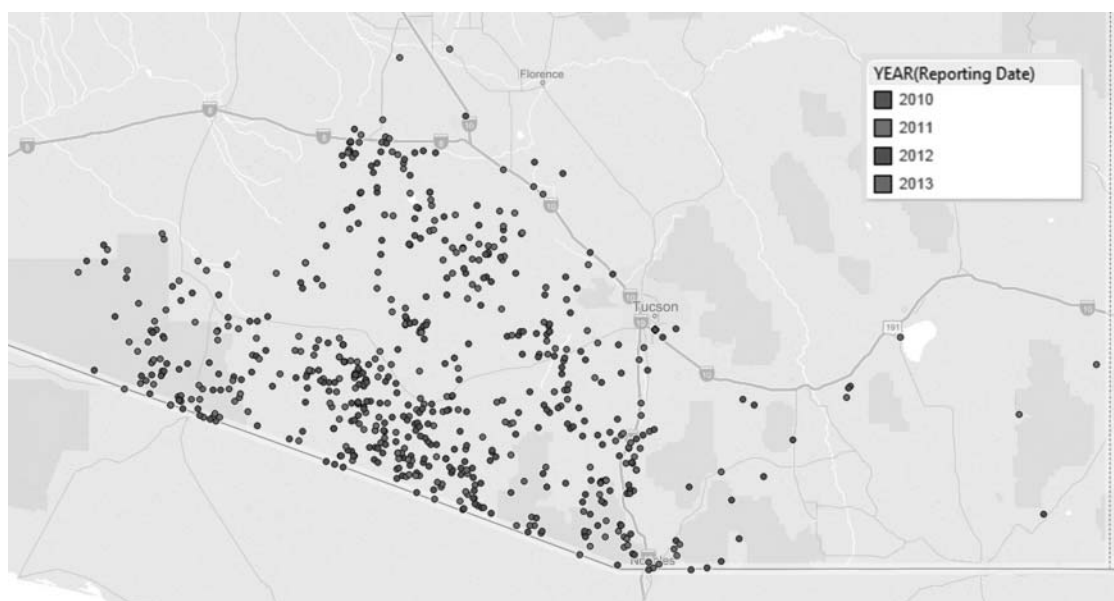
Figure 2. Migrant deaths 2010–2013 with roads and dates.

conducted spatial statistical analysis to better understand migration flows in order to improve the delivery of supplies in efforts to maximize the lifesaving effects of their work (Doty 2006). More recently, artists and other activists have also distributed (or designed) different "border disturbance" technologies to prospective migrants in Mexico, such as global positioning system (GPS) beacons, compasses, maps, and even shoes with popular border-crossing routes mapped onto insoles. One of these projects, the Transborder Immigrant Tool (TBT), a GPS-based trail-hiking application loaded onto inexpensive cell phones, promises to guide migrants to the nearest humanitarian water caches in an effort to keep them from dying of thirst (Cardenas et al. 2009; Amoore and Hall 2010). The TBT, which was developed by the Electronic Disturbance Theater 2.0/b.a.n.g. lab based at the University of California, San Diego, and other similar initiatives have been criticized on claims that they might induce illegal activity (undocumented border crossing) or give potential migrants a false sense of security prior to embarking on a cross-border trek. Despite early motivation to provide migrants in northern Mexico with the tool, the TBT has not yet actually been distributed to migrants, and remains largely an artistic and conceptual work.

Little research has been done about whether these "border disturbance" initiatives make (or would make) any difference in the experience of the migrants. In fact, very little research has been done about the overall information behavior of migrants at the border, or about their use or their perceptions about information technologies and the role they play at the border. Having a better

sense of how migrants find the information they need, and how they perceive and use (or don't use) various ICTs will contribute to a better understanding of the role of information at the critical transition point of living at the border, and may inform the implementation of potentially lifesaving practices by humanitarian organizations seeking to reduce the number of deaths in the desert.

From the perspective of information studies, the social consequences of the border enforcement practices in the face of the continuing migration patterns also present important empirical and ethical questions. For example, understanding how migrants find information about the dangers of crossing the border; the nature of U.S. border enforcement policies, practices, and use of technologies; and some of the different interventions by border activists and humanitarian aid workers intended to prevent deaths at the border may help shed light on why migration rates have not generally declined in correspondence with increased border securitization. The findings of this study provide a new glimpse into the dynamics of migration across the United States' southern border, and of the role of ICT use in the migration experience of undocumented immigrants to the United States. They are limited in scope, drawing from a relatively small sample at a single migrant shelter in northern Mexico, but the findings provide a basis for additional research in the growing field of immigration and information.

In academic literature, the broader issue of international cross-border migration has been the subject of much scholarly attention across academic disciplines. Similarly, information and immigration are both

well-documented phenomena in human history, and each has been strongly linked with political, cultural, and sociotechnical dynamics. However, research examining the intersection of information and immigration is a much more recent phenomenon (amplified by the increased availability and use of ICTs in recent years). Since the early 2000s, the relationship between ICTs and the immigration experience has become an important subject of social and academic analysis. While ICTs are central components in the lives of many transnational migrants, they have only recently begun to receive consideration in transnational studies (Panagakos and Horst 2006).

Our current research builds on prior work that explores the concept of the embeddedness of ICTs in the daily lives of transnational migrants (Baron, Neils, and Gomez 2013; Vertovec 2004; Leonardi 2003; Benitez 2006). This concept draws from a variety of disciplines, including "communication, development, linguistics, information behavior, and others" (Baron, Neils, and Gomez 2013, 100). Generally, these studies, focused on migrants already in place within their new host countries, have shown that the use of mobile phones for maintaining connectivity with others across borders "is at the heart of their lives" (Vertovec 2004, 223). Other studies, such as that by Leonardi (2003), have found that Latino migrants in the United States preferred to use cell phones as their dominant form of communication, and that computers and the Internet were not viewed as "technologies that helped keep people connected" (172). Social networking websites, such as Facebook, of course, did not exist at that time (2003). In a later study, Benitez (2006) found that although Salvadorian immigrants in the Washington, DC, area had limited access to the Internet, they perceived it as a useful tool for communicating with family in other parts of the world. Baron, Neils, and Gomez (2013) suggest that this body of literature requires us to consider both the ICTs as a form of "homeland connection" and "as a distinct phenomenon" (100). Thus when examining the information behavior of immigrants, researchers should recognize that "Migrants therefore exist in a world of *in-betweenness*, negotiating cultural forms and identities at the crossroads of the nation-state and global diasporas" (Baron, Neils, and Gomez 2013, 100, emphasis added, citing Srinivasan and Pyati 2007, 1735).

Another relevant concept that has received attention in the literature is that of transnational social fields, defined as "a set of multiple interlocking networks of social relationships through which ideas, practices, and resources are unequally exchanged, organized, and transformed" and that transcend nation-state boundaries (Levitt and Schiller 2004; see also Horst 2006). This theory will inform the way we approach understanding the complex networks that provide information to potential migrants prior to their decision to migrate to the United States. The idea of immigrant transnationalism, on the other hand, is primarily concerned with how immigrants participate, on a daily or regular basis, in social, economic, or political activities that span national borders (Lima 2010; Benitez 2006). The emergence and development of ICTs, such as mobile telephony and the Internet, has spurred the growth of transnationalism among migrant populations, perhaps more than any other factor (Lima 2010). Transnational activities consist of a range of social, economic, and political actions, such as communicating with family in native countries via mobile phones or other ICTs, transnational entrepreneurship, remittance transfers, and engagement in transnational political activity. In short, the concept of immigrant transnationalism attempts to "capture the frequent and durable participation of immigrants in the economic, political, and cultural lives of their home countries" (Lima 2010, 1). Levitt and Schiller (2004) proposed a "social field approach to the study of migration" that encompassed the coexistence and potential compatibility of assimilation theories and persistent transnational ties. This theory will also help illuminate the information-sharing networks (informal or formal; mediated by technology or not) that provide information to individuals preparing to attempt the crossing.

Researchers have investigated the impacts of ICT use on the experience of immigration and immigrant transnationalism. Generally, this research has focused on migrant use of the Internet (Panagakos and Horst 2006), rather than other forms of ICT appropriation such as mobile telephony. Panagakos and Horst (2006) specifically state that "more attention needs to be directed to the variety of ICTs utilized in transnational social spheres and towards understanding the implications of these increasingly mediated relationships" (111). Researchers have conducted studies to determine the "scope of transnational practices among particular immigrant populations" (Levitt and Schiller 2004, 1004; see also Wilding 2006; Benitez 2006; Horst 2006; Portes, Guarnizo, and Haller 2002; Guarnizo, Portes, and Haller 2003; Itzigsohn and Saucedo 2002). However, a very limited amount of research has examined the use of ICTs by migrants prior to or during migration—for example, to understand the type and amount of information potential migrants seek and gather about the migration experience, what sources they turn to for this information, and how they understand the risks involved in crossing into the United States.

Our research, focusing on investigating ICT use by migrants prior to and during the border-crossing

experience, suggests that ICTs only supplement more low-tech, interpersonal information-related practices, primarily word of mouth and the use of cell phones, which ultimately provide migrants with more—and more credible—migration-related information. Past research shows, and our current findings support the claims, that migrants acquire information about the state of employment in the United States and the dynamics of crossing the border from a variety of sources, including from friends or family members currently living or working in the United States or who have previously crossed the border in an undocumented fashion, or by drawing on their own cultural knowledge and social connections or that of others hired to lead them across (see de León 2012; Spener 2009). Anthropologist Jason de León's work also demonstrates that border crossing material culture has become "standardized" over the past 20 years, as migrants have routinely used low-tech technologies such as black clothing, black water bottles, and cheaply made tennis shoes (de León 2012). These forms of technology continue to be the most important for many clandestine border crossers, and have been the subject of a growing body of academic research. However, understanding whether, and how, the use of more technologically sophisticated technologies or ICTs by migrants (as well as by the humanitarian volunteers who help them and "coyotes"; Spener 2009) has impacted and supplemented more traditional information-sharing networks and border-crossing behaviors can help shed light on additional information-related practices of migrants preparing for and undertaking the illegal cross-border trek. The purpose of this research is not to supplant or ignore the importance of lifesaving technologies such as water bottles, shoes, compasses, or even water and food themselves, but rather to better understand how ICTs also contribute to migrants' information practices and border-crossing behaviors.

Research methods: Semistructured interviews and qualitative coding

This work is part of a larger ongoing research project investigating the role of information, technology, and surveillance in the lives of undocumented migrants attempting to cross clandestinely into the United States from Mexico and Central or South America, and we report surveillance-focused aspects of our findings elsewhere (Newell, Gomez, and Guajardo forthcoming). This is an exploratory, qualitative study that seeks a deep understanding of the experiences from the perspective of the migrants themselves; the sample size is therefore relatively small and cannot lead to broadly generalizable conclusions. Instead, we base our findings on data

collected through qualitative interviews ($n = 48$) designed to elicit rich experiences from the participants. We present our findings in a narrative style that invites the inclusion of the voices of the participants themselves in order to offer novel insights and perspectives that shed light on the relatively unexplored topic of information behaviors during the process of border crossing. This narrative approach, because of its ability to give voice to the participants' rich descriptions of their information practices, can contribute valuable insights to the larger literature on information practices—both active information seeking and less directed "everyday life information seeking" (McKenzie 2003)—within the information studies field. To these ends, we conducted 38 interviews with migrants and volunteers at a day shelter for migrants in Nogales, Mexico, in May 2014. In December 2014, we conducted another nine interviews at the same shelter (with eight new interviewees as well as one person whom we had also previously interviewed in May), as well as an interview and ride-along with a U.S. Border Patrol agent in Nogales, AZ.

The Kino Border Initiative (KBI), a binational nonprofit organization that operates the migrants' shelter in Nogales, graciously agreed to allow us access and to conduct interviews with the migrants and aid-workers at their facility. We conducted informal and semistructured interviews with three types of subjects: (1) individuals who had been recently deported from the United States (generally within a few days of deportation, $n = 29$), (2) migrants from Central America who had just arrived at the border with plans to cross into the United States in a clandestine fashion ($n = 4$), and (3) migrant-aid workers affiliated with local and binational humanitarian organizations and who provide services at the shelter on a regular or recurring basis ($n = 13$). After our presence was announced by shelter workers, we approached migrants and volunteers working at the shelter, explained the nature and purpose of the research, obtained verbal consent, and conducted semistructured interviews loosely based on a predefined interview guide. Interviews were conducted in either English or Spanish, depending on the respondent. Most interviews were recorded, though some were summarized after the fact; those in Spanish were translated to English, and all were transcribed. Daily field notes and peer debriefings by the research team were also used to inform the analysis.

We interviewed 33 migrants and 13 aid-workers and volunteers at the shelter. The volunteers and aid-workers (seven male, six female), included a priest, two staff members, a Jesuit in training, three Jesuit novices, and six additional volunteers. Of the migrants, 29 were originally from Mexico, 1 was from Guatemala, and 3 were from Honduras; 27 were male and 6 were female (all of

the female participants were from Mexico); 29 had been recently deported, generally within the past few days, 3 were attempting the crossing for the first time, and 1 was attempting to cross again after having spent a period of time back at home in Guatemala before venturing north again. The distribution of this sample roughly matches the distribution of the population of migrants that visited the shelter over a broader period of time. In the month of our first visit (May 2014) the shelter recorded 861 adult migrants and 11 minors; of the adults, 688 (80%) were men, and 173 (20%) were women, with an average age of 31 years (mode = 18), the oldest being an 81-year-old man; 85% of the migrants (729) were from Mexico, 9% (80) from Honduras, and the remaining 9% coming from El Salvador, Guatemala, Nicaragua, Peru, and Colombia (KBI Report, May 2014). In that same month, almost 83% ($n = 713$) reported being in Nogales because they had been recently deported; 165 reported being apprehended and deported while living in the United States; and 544 reported being apprehended while attempting to cross the border clandestinely (4 did not provide an answer). These figures are consistent with reports collected by KBI in the months prior to our initial arrival.

After fieldwork, data were translated (if needed) and transcribed for analysis. We developed a coding manual based on the main categories of the interview guides, refined through an iterative process for additional concepts as they emerged in the data. After several iterations coding and refining the codebook based on a subset of interview transcripts, a final codebook with nine categories was established, and the full set of interviews was coded by one of the researchers, with spot checks by the second researcher. Not all categories coded are of relevance to the findings presented in this paper.

Findings: At the border, cell phones can make migrants more vulnerable

According to our data, at the in-between space of life at the border, word of mouth—not technology—is the most important source of information for the migrants. They may have used cell phones to contact a coyote and to stay in touch with family and friends when preparing to cross the border. But life at the border is all but ordinary. The lives of the undocumented migrants are especially vulnerable when they are at the threshold of the border crossing: recently deported or recently arrived, with their dreams and aspirations on the surface of their skin and carrying their belongings in a backpack or a plastic bag. At this point, they are extremely vulnerable to abuse by thieves, human traffickers, drug traffickers, and even corrupt police officers. Building trust is critical for survival, and yet it is more difficult than ever. At the border, the use of phones is a double-edged sword, because the disclosure of phone numbers of a person's contacts or family members is a window to extortion and abuse. Contrary to what is experienced away from the border, the cell phone that was once a lifeline and a useful tool now becomes a liability, and the comfort of having a list of phone numbers becomes a risk.

In the following four subsections, we describe some of the salient findings of our research related to (1) how migrants find information about crossing the border; (2) how they use information technologies as part of their border-crossing activities; (3) how they understand and perceive various humanitarian and activist efforts; and (4) what they would wish for, in terms of change to their border-crossing experience or the politics of the border more broadly, if they could implement a different reality or future.

Information acquisition: Word of mouth to find a guide you can trust

In terms of acquiring information about border crossing, its attendant risks, and practical considerations, we found overwhelming evidence that the primary mode of information gathering was conducted by word of mouth, and that finding trustworthy help on the way was one of the biggest challenges encountered by migrants. When crossing for the first time, it was difficult for migrants to gather advance information about the journey and to obtain practical advice about how to cross the border. Many relied on contacts passed on from trusted family members or friends:

> Migrant: Well I looked around on my own, I asked friends and relatives and so one of my friends helped me find a guide. Just a neighbor helped me and told me, "well this person will help you," and that person helped me come all the way here.

If all goes well, the information leads to a name (or alias) and a phone number, a call that establishes a plan of action, a meeting point, a wire transfer to pay for services in advance or cash on the spot, and eventually a crossing attempt. But reality is not always that easy or straightforward. Phone numbers change, identities are concealed, and scammers abound. There is no "Angie's List" for reputable coyotes, and if such a list existed it would not be trusted. Some migrants reported seeing information about border crossing on TV or in newspapers, and a few of them said they had consulted a map before setting out. Only one had looked up information online prior to leaving home toward the border.

Once migrants are at the border, information seeking becomes more concrete, more urgent, and more risky. It is, nonetheless, still primarily word of mouth. In the experience of "Pedro" (name changed):

> 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.

"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." The source of a guide's contact information varied, from referrals from family and friends to informal information sharing at migrant shelters between migrants, to having coyotes—or their recruiters—make the initial contact. However, the general method—talking with another person over the phone and then obtaining a guide's phone number to call—was very commonly understood and practiced by most of the migrants.

The following is a typical example of how this process would be experienced by the migrants:

> Researcher: How did you find information about crossing the border?
> Migrant: Well, that is why I'm here with my other friend, because we're in the shelter to see if we can find information about who would be a good guide for us, to try to go back.
> Researcher: So how do you know who to trust?
> Migrant: Well, that's the issue. I'm trying to find out who can give me … who is a trustworthy guide. I think maybe that people who have already gone, or the people who are supporting me there where I'm going, if they know of someone … but I don't know. I don't want to just go to somebody who will rob me or will turn me in. But I don't know how to find one. I've been calling. Here, they gave us free phone calls. So I've been trying to communicate with my family, and sometimes they answer the phone, sometimes they don't. But I am always in communication with them.

Generally, the most useful information was acquired face-to-face while staying at the border. Phones were used to contact relatives back home (wherever home is, whether in the United States or in their country of origin). A large proportion of our interviewees had already attempted crossing previously, and had gained a lot of practical knowledge through prior experience—knowledge that they often shared with other, less experienced migrants. Much of this information sharing would occur in border areas or on the migrant trail, as migrants met each other while traveling or at any of a series of shelters throughout Mexico. One migrant noted:

> We ask friends. So you see another person from Honduras and they say, "Oh, I know somebody who I trust." Or especially, if you have anybody you know who is already there in the U.S. then they tell you there's this person and there's that person who helps people come in so you can contact them. So those are the options. You have your family there and they know people but here, we get here and we don't know anybody and we don't know who to trust.

Interestingly, the informal networks migrants created while staying in migrant shelters provided much of the information migrants had about border crossing and possible guides. This was especially true for the migrants who did not have much experience with crossing the border, as they often reported listening to the stories of other, more experienced, migrants with great interest. This phenomenon was reported by both migrants and aid-workers, who also had a sense that many migrants learned quite a bit during their time in the shelters:

> Migrant: So basically, once we get here we just ask the people who are here, the people who have been deported, see what they can tell us. They tell us some people tell them how they go in carrying drugs. Others tell us other things and that's the information we have.

Because coyotes and local recruiters often tried to contact migrants and solicit business, some of the aid-workers also saw it as their responsibility to "re-inform" migrants about the situation in Nogales:

> Aid-worker: It [coyote solicitation] is a huge business here in the city. It's beneath the surface, but it's easy to find misinformation. I think we work a lot to try and re-inform people. Like, "you may have heard that you can cross the wall, or that you can cross in one day, or that you don't have to pay the mafia"—but just trying to re-educate people telling them that you do have to pay, that these are all occupied territories, that you can be in the desert from anywhere between a week and a month.

Additionally, we were often told that increased U.S. Border Patrol presence at the border had caused migrants to alter who they sought out to guide them. The following quote from an aid-worker was reinforced by a number of migrant responses:

> Everyone knows that there are bad guides and they want to find a good guide … it is my opinion that U.S. foreign policy is kind of booting out the people who were the smaller operations (the people who just did it on the side and didn't make a lot of money off it), because now people are forced to interact with organized crime, people are forced to interact with harder criminals now, because they are the only ones that have the technology and the control over the areas where people can cross, unless you just go here in downtown Nogales and jump the wall yourself, but that is pretty dangerous.

In sum, migrants find information about border-crossing from each other, from friends and family, and from coyotes and recruiters, in an intricate network of word-of-mouth communications that has no formal expression or concrete manifestation in traditional media or other sources of information. Establishing and building trust, finding someone you can trust—and who will help you and not take advantage of you—is the most important challenge in the informal economy of border-crossing, especially in the face of the physical dangers, the legal challenges, and the presence of organized crime and drug trafficking. Phones are commonly used for communication and contact with friends, family and coyotes, but as we show next, phones pose a new danger for migrants in the vulnerable space of life at the border.

Technology use: If phones are no longer your friends, is there a place for Facebook?

The use of information technologies by migrants, whether used in preparation for the journey or carried with them, was generally limited. As described earlier, most migrants had used a phone to contact someone (family, friends, or possible guide) before or during their time living at the border. Furthermore, a small proportion of had personal cell phones (even smart phones) and used them (or charged them) while visiting the shelter during our stay there. We heard anecdotal evidence about the use of various messaging apps, such as WhatsApp, but most of the migrants we encountered who carried phones had fairly simple candy bar phones that would not support much more than basic text messaging. One migrant also reported using video calling software to contact family, but not for information-gathering purposes.

We also heard one anecdotal story from an aid-worker who had met a young man who had started out on his journey with a laptop computer loaded with Google Maps of the border areas and a personal tent. Unfortunately, he had been robbed of his possessions early in his trip north. The aid-worker noted that in some ways this young man had used more technology and was more informed about a lot of aspects of the border than any of the other migrants that she had ever talked to, but yet in some ways, he was more naive than many of the other migrants, who had a better understanding of the realities of the migrant journey. Despite being skilled at Internet research, using Google Maps, and having a lot of technology at his disposal, he was still unprepared for many of the harsh realities that the migrant journey entails.

The shelter where we conducted our study, like other migrant shelters in Nogales and along the United States–Mexico border, offers migrants the use of "safe" cell phones for short calls to friends and family, among other services. A phone call can sometimes be more precious than food, shelter, or shoes, but placing the call from a device accessible to others may further endanger the already precarious existence of the migrants living at the border, and of their relatives. To further complicate matters, some migrants report that their relatives will not answer calls that come from a number they don't recognize, to minimize exposure to fraud and extortion, which results in also excluding the "safe" phones at the shelter—that is, phones less likely to be accessible by smugglers and cartel members. For the migrant in the vulnerable space of the border, the convenience of a list of phone numbers and a handy cell phone can also turn into a risky liability. It is common for migrants to be robbed of physical possessions by gangs, mafia, or crooked police officers, and it is increasingly common for their abusers to use phones and lists of phone numbers in their possession to phone the migrants' relatives to coerce payments, request cash for the journey, or outright demand extortion payments for the release of their relative. One migrant described his experience as follows:

> The mafia will kill you. The other day they caught us and I thought that it would be the last day of my life. They have these big guns and they were pointing them at us and I was thinking they were going to kill us … They took us, they took our shoes off, they took all our papers, they asked if we had any phone numbers of our friends, and that we had to give it to them. What I did was I took my wallet very carefully and took out the phone numbers and threw them out and [now] I cannot communicate with any of my family anymore; I only know my cousin's phone number but all the rest I lost, I don't have them anymore.

One of the aid-workers who, at one point in his past, had also been deported to Mexico, confirmed this reality:

> Here and along the borders of the U.S. and Mexico, the migrant is not seen as a person. They're just seen as a dollar sign. Peso sign, just a peso sign. They don't see them as a person, but just as how much money can they make. It's worth money. So the migrant who comes here, they have relatives on the other side who are going to help them, so what do they do? They extort their family members, they get their phone numbers and try to extort the family. And their families, just to try to protect their relatives, they do whatever they can to send that money.

In addition to the perils at the hands of the mafia and cartels just described, migrants also face similar risks if they use another person's phone to contact friends or family members, as others can easily redial numbers and

extort the migrants' relatives. The security indications migrants receive at the shelter include a new "border etiquette" for use of pay phones and cell phones. In the vulnerable space of the border, migrants are instructed to delete the last phone number dialed in a pay phone (so that someone else cannot hit redial and reach the number the migrant had just called), and they are warned not to accept free calls from people on the street, even if they pose as coyotes: By doing so they are leaving their relatives' phone numbers in someone else's cell phone, thereby exposing their relatives to fraud and extortion.

In this context, it was not surprising to hear a migrant indicating that he wanted to use Facebook to store contact information, because then he wouldn't risk losing the ability to contact family or friends, and his family wouldn't be put at risk. (Although, objectively, it is unclear whether the use of Facebook would actually achieve these aims in the long run, as Facebook accounts could also be compromised—though it does reduce reliance on physical artifacts that can be more easily stolen). Another young migrant expressed a sentiment common in much of the world (but relatively uncommon among the migrant population we interacted with):

> In a way, ever since I started having Facebook, I've never been disconnected. Even if I'm in a different place, I find Internet so that I can be connected. That's what I've always liked.

When asked why he wanted to learn how to use Facebook, another man from Michoacán, Mexico, told us about his desire to use Facebook to share information with other migrants:

> I have never been in a shelter like this. And I like everything that happens here … If one day I'm back … in the United States, I could tell friends and migrants to come look for this place for the shelter. Because when I was in Tijuana when they caught me, they mugged us on the mountains, and they took away my money. And then when I was taken to a control post in Tijuana, I didn't have any money, and I had to ask, beg around to other people, and I did not know that there was this kind of place just like a shelter. Many people can learn about this. So that I could tell other people, like other migrants and other friends, to look for these kinds of places, so that they don't suffer like I suffered. Where to sleep, or [to find] clothes, or food.

Furthermore, during a detailed interview with another young man from Central America, we discovered that that morning he had already visited a cybercafé and uploaded pictures of the wall, so that his family "could see the wall, because they've heard about the wall so here they can see it in pictures … and so that way they will know where I am."

In sum, our findings appear to indicate that Facebook may be a communication tool that is of interest to migrants in transit, not only for the commonly reported reasons of connecting with friends and family, but also as a way to protect themselves and their relatives from crime and abuse in the vulnerable space of life at the border. Building on these unexpected mentions of Facebook, we polled the migrants at the shelter on our last morning there during our May trip: About half of them raised a hand when asked if they had a Facebook account, and about half of those kept them raised when we asked if they had used Facebook since leaving home. Anecdotal and incomplete, these findings point to a potentially rich area of further inquiry on the use of Facebook and other social media as they inform the experience of border crossing, something that starts to appear in recent newspaper accounts of Syrian refugees on their way to Europe in 2015 (Cunningham 2015).

Humanitarian service and border activism: Gratitude and distrust

As discussed previously, a number of humanitarian responses have been generated by the increasing numbers of migrant deaths occurring along the border in recent decades. In this section, we present findings about how aware migrants are about, and how they perceive, two of these responses: namely, the provision of food and water along migratory trails by Samaritan groups in the United States, and the Transborder Immigrant Tool—essentially a cell-phone-based GPS trail-hiking program that would, if distributed, lead migrants to the nearest water caches left by the Samaritan groups. Additionally, we asked a few migrants about their use and perception of physical maps of the border region that hung in the shelter near where we conducted most of the interviews—maps that generally included either information about the numbers and locations of recent migrant deaths or the locations of water stations in southern Arizona.

A majority of the migrants we spoke to were aware to some degree that there were groups in the United States that were placing water on migratory trails, though few had actually encountered water caches while crossing into the United States. Two migrants separately reported having learned about these humanitarian efforts by watching television; others generally heard about these efforts through word-of-mouth discussions with other migrants, family, or friends. One migrant reported having found gallon jugs of water on at least four separate occasions while crossing into the United States. At the time he came across the water jugs, he had no idea where the water had come from or whether the water stations

themselves were safe places for migrants. One of the aid-workers at the shelter expressed the following sentiments, which were consistent with the statements we heard from migrants:

> I've had very few people tell me that they've found water. Some people say that they have found gallons of water, but this is few and far between. I think that people generally, and this might be more and more, use routes that are more dangerous, more hidden, more mountainous, more treacherous routes out of [perceived necessity]—whether they're trying to avoid drug routes, or the Border Patrol, or both.

One migrant, who had heard about the water caching groups, but who had never encountered the water himself, expressed deep appreciation for their efforts: "It's a big help. Angels from God. That's the life for the people. If we don't have water, you die very easy in the desert. The temperature is super-hot, so it's a big help." Another migrant mentioned being comforted by knowing that at least one Mexican agency (Grupo Beta, a service of the Mexican Instituto Nacional de Migración) also places water on the Mexican side of the border. Responding to a question about a photograph he had taken with a friend in front of one of the agency's orange-colored trucks, the man explained:

> When I crossed, you walk for 5 hours until you get to the desert and then you get to a little ranch or hut—it's always closed. The [Grupo Beta] bring water, there's always water there. The trucks of the Beta gives me hope—it makes me think of the hope that if I'm dying of thirst, they bring water and I'll do better.

Other migrants also reported being comforted by the thought that others, on both sides of the border, were attempting to help migrants in various ways. On migrant stated, "It makes me think that we are not alone." On the other hand, however, one aid-worker did express the sentiment that Border Patrol might patrol the areas around water caches more heavily, making the water stations undesirable locations from the migrants' perspective. He stated, "Even the Border Patrol will say that they don't patrol the water routes any more heavily than they'd patrol any other area, it's just that I can't imagine that they logically don't find themselves there more often."

Migrant reactions to a cell-phone-based tool that would lead them to water were much more mixed, and many migrants expressed varying levels of suspicion and concern about such a tool—most stating they would not use it if it were offered to them. Some offered mixed accounts, seeing the potential to guide migrants to water as a positive development while also being concerned about whether they could trust a cell phone given to them by someone they didn't know and trust. Many of the migrants also connected use of such a cell-phone-based tool with the surveillance capacities of the U.S. Border Patrol, echoing the perception that use of the tool would allow the Border Patrol to track and locate them (e.g. "with that same thing, they will just be able to catch you"). Others expressed the perception that, because of the nature of the cross-border trek itself, a simple cell phone was unlikely to really make much of a difference. However, a few migrants did express unambiguous support for the promise of a tool to lead them to water, as demonstrated by the following excerpts from two migrants:

> Migrant: I think that would be a wonderful idea. It would be so helpful, because when I went to here and I had that I could know that the water was there, so I would go there instead of someplace else where there was no water. And it would be safer and that would be much better.
> Migrant: I think that is great because that means that no people will be dying in the desert, because that is where most people die … [and] I believe that is the motivation of these people … to try and prevent the deaths in the desert. All death in the desert is unnecessary.

On the other hand, one migrant stated that he would not use the tool, despite believing the project was motivated by good intentions, because "you cannot overcome the intelligence of the Border Patrol." He continued by stating, "There's also what I've seen in movies, and yes, I know it's true, that when you use any gadget, any device, and there's other devices that will detect and know where you are and they will be able to know where you are and come pick you up." When asked to confirm that he believed what he had seen in movies, he responded:

> Yes, I think that is the way it is. So if somebody offers you a cell phone and says, "Here, this cell phone will help you reach water?" Would you use it? No, I would not trust it. I would not want to use that because I don't know if they're trying to trick me. Or they will use it to help find where I am. There is much technology here and the Border Patrol has a lot of money so we cannot confront that. We cannot compete with all the technology that they have.

When asked if they would use such a tool if it were offered to them, other migrants responded as follows:

> Migrant: If it's not somebody who is involved in the immigration, then for me it would be good. Because if they're going to be tracking the cellphone, then they will pick us up again, they will arrest us again, and they will not let us go through.
> Migrant: I would not use that. Because they could just be sending me on the wrong path. They could be sending me, there could be a trick … That is what is difficult. Because we need to find who we can trust.
> Migrant: So maybe I would use it … but what if they're lying to me? This is my life I'm putting at risk. But

maybe I would use it because I have no other option. If I don't have any other way of finding out. So half of me says I would use it, and half of me says I would not use it. So maybe yes, maybe not. What I can do, and the help I can get from technologies such as that? Well it might be helpful.
Migrant: I think it's a good idea, but it's hard too, because … if you use the cell phone to connect, the Border Patrol will find you, as soon as you put the battery into the cell phone.

One migrant, when asked if he would use similar software if it were loaded onto his own personal phone, still expressed some distrust in the option because he was not sure if he could trust the software developers:

I'm not sure that I would be able to trust that … because maybe they would want to trick us and take us to the wrong place. So I don't know, I kind of want to trust it, but I kind of don't want to. [I have] mixed feelings about it.

One of the aid workers also expressed a similar sentiment:

When I think about a migrant's reaction [to the idea behind the Transborder Immigrant Tool], it would be "if I turn the damn cell phone on the government's going to get me. Or if I go towards the water tower, they're likely more patrolled."

Another aid-worker elaborated a slightly different view:

I think it would be a good thing, initially. And then you have to adjust … you put out a technology and then how long does it take to get into the wrong hands? So, let's say, at that point, let's say someone kidnaps somebody and finds that they have this GPS device. Then on this GPS device its located they can find out where this things are and then they can plant people there … I think that it's a good idea, I like that idea because I think it ends up saving lives, but then you have to do research to see if you're ahead of the game or not. Does that make sense? You know, because I feel like you always— to save lives—you kind of have to be a little step ahead.

The preceding statements suggest a problem of (potential) adoption based on a lack of trust and a feeling that migrant use of technology might enable the Border Patrol at the expense of the migrants. It also shows that migrants are generally aware that the Border Patrol is engaging in sophisticated forms of surveillance along the border. In terms of barriers to technology adoption within the migrant community, one aid worker stated, "When something's new, it won't catch fire until someone's done it and the word's spread that it works."

Hopes and dreams for the future

In addition to asking questions about information-seeking, ICT use, and humanitarian water-caching efforts, we also asked the migrants to talk about their ideal proposed solutions to enable their dreams of a better future—if they could change anything in the world about the border situation, what would it be? Not surprisingly, their responses offered a variety of perspectives, from pragmatic to philosophical to whimsical.

The most common response was related to temporary work permits: They wish there was a way they could legally cross the border and work, even if temporarily or seasonally, and even if they have to pay for such permits (they are already paying coyotes and smugglers, and risking their lives with it). This would alleviate the guilt of breaking the law ("I am not a criminal"), and remove the constant fear of being deported and separated from their family; furthermore, it would allow them to return to their country of origin and know they could reenter, legally, in the future. Other responses focused on improving the conditions in their place of origin: If there were jobs back home, they would not have to go looking for work in the United States. Some of the migrants wished for open borders and unrestricted passage, while others just wished to be treated humanely if they were caught. Finally, others offered whimsical responses such as teleportation (to be at their destination instantly) or invisibility cloaks (to effectively hide from the Border Patrol).

One woman, recently deported and separated from her United States-born children, provided a very emotional response that echoed many of the feelings we encountered in other migrants as well:

I can understand it, yes, we're coming into the country illegally. But all we want is to work. What I want is just to go work. I want to work for my kids to give my children a better life. Mexico is too difficult … I've never had a [criminal] record, I've always tried to be within the law. [She pauses while sobbing.] What I want is to be able to come and work for some time, even if it's six months, and go back [to Mexico]—but to be able to do it legally. I don't ask to stay and live there, [the United States] is not my country … And I want my kids, they were born [in the United States] and they want to stay there, and I want to be with them. And for that I need a better job. I don't want to be hiding from the Border Patrol. Yeah, I think the best thing would be a visa. A work permit.

Very few migrants expressed wishes that included ICTs or other technologies, as their dreams were generally (and understandably) directed to more basic and fundamental needs. However, one migrant did express a desire for a smartphone or tablet that could be

loaded with maps and information to help him on the journey:

> I want to have information on the screen. Not just for where the water is, but where the migrant shelters and the food and the safe places for migrants are all throughout Mexico. I had a paper map of train routes. I knew where the train was. I was given a black and white copy of just basic information about train routes in Oaxaca at a shelter there. But it would be wonderful to have a tool, a piece of technology that would tell me where they were and where the next shelter was, where the food was, where the safe places for migrants were.

Similarly, another migrant stated that "what the migrant needs is somebody, a guide who will take them to where there's water or to take them on the right path. But not technology. Just a person who knows. Yeah, it's a person, not a technology."

In sum, migrants are at the border carrying their hopes of a better future, and wish for a legal, safe way to do the border crossing. The solution, according to our respondents, is simple: a work permit. In the meantime, in the face of the closed border, the preferred solution is not more or better technology, as some techno-utopian scholars would argue, but simply someone who knows and can help.

Discussion and conclusions: Reinterpreting embeddedness while at the border

Our research explores the ways in which undocumented migrants at the United States–Mexico border acquire information prior to and during their border-crossing experience, with a particular focus on the transient space of life at the border, where their lives are more vulnerable than before or after the crossing. Building trust with other migrants and with people who might help them is critical, but this becomes difficult given the particular vulnerabilities and transience of life at the border. Prior research has identified trust as a critical aspect of acceptance, especially for communities that engage in risky behaviors (Lingel and boyd 2013; Fine and Holyfield 1996). However, the migrants we interviewed often found it incredibly difficult to build trust or identify trustworthy information or resources, a finding complicated by their transience. The documented suspicion toward information and technologies offered by outsiders resonates with at least part of Chatman's theory of information poverty (Chatman 1996; Lingel and boyd 2013).

Our findings also support prior research on the embeddedness of ICTs in the daily lives of transnational migrants that finds mobile phones as a dominant mode of interpersonal communication. Migrants use cell phones to maintain their relations with and across borders, at a time where more than ever communication "is at the heart of their lives" (Vertovec 2004, 223). Nonetheless, technologies, and cell phones in particular, are also a double-edged sword, because they expose the migrants to additional vulnerability and the risk of extortion. This finding is contra to the techno-utopian notion that technology will automatically help marginalized populations. Relatedly, our findings suggest that migrants have begun to understand and utilize the Internet and sites like Facebook to stay connected with friends and family, and use of Facebook may in fact reduce the vulnerability afforded by cell phones. The embeddedness of ICTs in the daily lives of some of the transnational migrants we interviewed was an important aspect of their cross-border journeys, but this experience was not very frequent among our respondents, and it was not as central during the border crossing as it was in the periods before or after a clandestine crossing. Although most of the migrants we spoke to did not have personal cell phones in their possession or regular access to the Internet, phones and other means of communication (such as Facebook) were important to some of the migrants in communicating with families and contacting others, such as coyotes, who would help them on their clandestine border-crossing treks. In time, the use of Facebook and other social media may grow among migrants during the border-crossing journeys, as it helps to maintain trust in information exchanges and can minimize the risks of other technologies such as cell phones at the border. This is an area ripe for further research, especially as a growing number of shelters and Internet cafés on the migration routes and at the border offer easy access to computers and the Internet. This focus on migrant use of ICTs, however, should not overshadow the importance of word-of-mouth communication and reliance on previously established social networks—or even the emergent and informal networks established between migrants in shelters and other locations along their migratory paths—as these were indeed the most prevalent forms of information seeking reported in our interviews. ICTs appear to be playing a role in many of the migrants' information practices, but their role is only one aspect of a much larger picture—a picture that also includes many other forms of technology.

Our findings suggest that embeddedness is exacerbated by the "in-betweenness" of the migrants while they are living a transient and vulnerable existence at the border region. Many of the migrants were acutely aware of risks that technologies posed; aside from risks associated with extortion and blackmail, many of the migrants also subjectively considered ICTs like mobile phones susceptible to tracking by the U.S.

government. While other studies have focused on migrant communities situated within their host countries of emigration—at the "end" of their cross-border journey in some limited sense—our findings indicate that similarities exist between these communities and migrants in transit. ICTs play a role in how undocumented migrants plan for and execute their (often) dangerous journeys into the United States from Mexico, even when all the technologies do is facilitate direct communication with family or friends in other places. Additionally, we find evidence that migrants are suspicious of certain technologies—especially those offered to them by others they do not trust—and that they are very cognizant of the sophisticated surveillance capabilities of the U.S. Border Patrol.

Our findings are consistent with the theory of transnational social fields, as defined by Levitt and Schiller (2004), as we found evidence that migrants participate in interlocking networks of social relationships (e.g., networks of family members, friends, other migrants in shelters, and aid-workers at shelters) to share and receive information—networks that often transcend nation-state boundaries, particularly between the United States and the migrants' home countries. Although many of the migrants we interviewed spoke about their informational networks—for practical purposes and because of resource constraints—as somewhat limited to those they interacted with on a daily basis in migrant shelters and in the border areas more generally, a number of migrants also stated that phone calls and Facebook also allowed them to communicate, maintain social and familial relationships, and gather information from family and friends in their home countries as well as in the United States. To a lesser degree, we could find evidence of immigrant transnationalism (Lima 2010; Benitez 2006) in our study, among migrants who had spent significant amounts of time living in the United States, and had participated in social, economic, or political activities in the United States, while still maintaining ties of "home" to their countries of origin. They maintained these ties during their periods of transition after deportation, as best they could, through the use of ICTs (primarily phones). The notion of immigrant transnationalism emerges more strongly among migrants who are already established at their destination, according to our additional, ongoing work with immigrants in the United States (Gomez and Vannini 2015; in progress).

Given that a very limited amount of research has examined the use and perceptions of ICTs by migrants prior to or during migration—for example, to understand the type and amount of information potential migrants seek and gather about the migration experience, what sources they turn to for this information, and how they understand the risks involved in crossing into the United States—the findings we present here, focusing on investigating ICT use by migrants prior to and during the border-crossing experience itself, provide important insights that shed light on some of the information practices of migrants preparing for and undertaking the clandestine cross-border trek into the United States. In addition to traditional, or low-tech, technologies that de León (2012) has described as becoming "standardized" over the past 20 years, our findings suggest that the use of phones now also plays a large role in the border-crossing experience of many migrants, and that newer technologies, such as Facebook, which are becoming accessible to a small percentage of migrants, also play an important role in some migrants' journeys—from one "home" to another. Additional research can help deepen the understanding of the embeddedness of technologies among migrants in the in-between space of the border region, and further explore the emerging use of Facebook and other social media tools for communication with friends and family. This may be of special significance in the context of vulnerability of life at the border, where phone numbers and phone use exposes the migrants and their relatives to danger and to the possibility of abuse.

Notes

1. United States Border Patrol, Sector Profile, Fiscal Year 2013, available at http://1.usa.gov/1pFgFEb (accessed January 29, 2016).
2. Arizona OpenGIS Initiative for Deceased Migrants, Custom Map of Migrant Mortality, available at http://www.humaneborders.info/app/map.asp (the data used to create this plot were downloaded and plotted using the OpenGIS tools on this website) (accessed January 29, 2016).

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