Smart(phone) travelling: understanding the use and impact of mobile technology on irregular migration journeys

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Abstract: This article analyses how mobile technology impacts on irregular migrants' journeys. It is based on trajectory ethnography with 11 Afghan, Iranian and Syrian migrants whom the first author met in Turkey and Greece in the spring of 2015. These migrants were followed (partly digitally) to Serbia, Hungary, Germany, Sweden and the Netherlands. We argue that the method of trajectory ethnography is a useful tool that allows us to understand how mobile technology shapes and facilitate parts of the journey – like, for example, decisions on routes and modes of travel, final destinations and the financing of irregular migration. This methodology leads to a more nuanced understanding of irregular migration because it enables us to capture the complex dynamics involved in irregular migration processes and to reflect on decisions taken within the process.

Keywords: mobile technology; smartphones; irregular migration; trajectory ethnography.

Biographical notes: Judith Zijlstra is a PhD candidate at the Department of Political Sociology at the University of Amsterdam, the Netherlands. She has a background in migration studies and Persian and Turkish language and history. In her research, she mainly focuses on Iranian migration to Turkey. She is interested in processes of transit and stepwise migration, forced migration and high skilled migration. She is very interested in the dynamics of migration processes and innovative methodologies that follow migrants and their decision

making over space and time. In 2015, she made a photo documentary that followed the irregular migration trajectories of Iranian, Afghan and Syrian migrants and asylum seekers in Turkey and Greece. In her current research, she follows the stepwise migration trajectories of Iranian academics to Turkey, the Netherlands and other parts of the world and tries to link their trajectories to changing global geographies in higher education and research.

Ilse van Liempt works as an Assistant Professor in the Human Geography Department of Utrecht University. Her research is centred on irregular migration, smuggling, trafficking, surveillance and qualitative research methods. She conducted her PhD research on human smuggling towards the Netherlands at the Institute for Ethnic and Migration Studies at the University of Amsterdam which was published with Amsterdam University Press in 2007: *Navigating Borders. Inside Perspectives on the Process of Human Smuggling into the Netherlands*. With a Marie Curie Fellowship (2008–2010), she followed Somali refugees who made an onward move from the Netherlands to the UK after they had obtained their Dutch citizenship. For this research she was affiliated to the Sussex Centre for Migration Research. Local barriers to integration were the key focus of her latest follow-up study on Somalis in Amsterdam (2014) funded by the Open Society Foundations.

1 Introduction

Since the 1990s, increasingly stringent migration regulations have severely limited the possibilities for some individuals to migrate, while the securitisation and 'remote control' (Hyndman and Mountz, 2008) of international borders have made entry into Europe more difficult for migrants lacking the necessary papers. As a result of stricter border controls and fewer opportunities for legal migration, migrants have become more dependent on smugglers. Recent research has indicated that roughly two-thirds of migrants use smugglers to access Europe (Kuschminder et al., 2015). This dependency on smugglers has increased the costs of migration and the journeys of irregular migrants have become longer and more fragmented (Collyer, 2007; Triandafyllidou and Maroukis, 2012). A rising number of irregular migrants are moving to Western Europe via transit countries, where they often spend significant periods of time. Smugglers have now begun to fulfil many of the functions traditionally served by social networks, such as providing migrants with information and influencing their choice of destination. However, in the current digital age, migrants also have the possibility of arranging their journey more independently. Smartphones, global positioning apps, social media, WhatsApp and Viber have become essential tools for migrants. In and around refugee camps we now see spaces popping up that provide migrants with power and free Wi-Fi (Schroeder, 2015).

Despite the fact that information and communication technologies (ICTs) have been identified as key issues in migration (Ros et al., 2007; Vertovec, 2004), there is a lack of knowledge about how the use of ICTs exactly impacts the way that migration works [Kuschminder et al., (2015), p.74]. In this article we make a first attempt at investigating how mobile technology shapes, firstly, decisions on irregular migration routes and methods, secondly, decisions with regard to destinations, and thirdly, the financing of

irregular migration. The data are derived from trajectory ethnography with 11 irregular migrants travelling from the Middle East (Syria, Iran and Afghanistan) to North-Western Europe in 2015. First, we look into the role and trustworthiness of information available to and used by the migrant and briefly discuss the use of mobile technology during irregular migration journeys. Following a description of the process of data-gathering through trajectory ethnography, we then look at how mobile technology impacted on migrants' decisions concerning the routes to be taken and methods used, the choice of destination and the financing of the journey. The article concludes with some suggestions for future studies on irregular migration and mobile technology.

2   Migration information and hierarchies of trustworthiness

> You hear someone's story or advice and then you compare it to what you have learned before, for example about certain countries. Together with images from the media and stories of other people, you start to draw an image in your head, a picture of the road. (Hani)[1]

Migration has almost always implied some form of communication network and information sharing. Thomas and Znaniecki's *The Polish Peasant in Europe and America* (1918) provides the most classic example of how immigrants kept in contact with their families through writing letters. Today these information flows are channelled faster and more cheaply than ever before, thanks to advanced ICTs. Worldwide we notice a rising ICT traffic. Monge and Matei (2004), for example, point out that, in some Western countries, the cost of international calls has fallen tenfold. Migrants now also have access to wider information sources and, as such, have more capacity to process information before and after departure. Information from personal contacts and social media has the advantage of spreading quickly and offering the latest news (Dekker and Engbersen, 2014). This might potentially increase a migrant's empowerment to make more informed decisions about routes to take, destinations to choose, preferred travel conditions and when and where exactly to cross the border.

On the other hand, research has also shown that the equation 'more information' equals 'better informed' does not always work [Gonzales, (2008), p.4]. There is a hierarchy in trustworthiness when it comes to information. Migrants and potential migrants consider migration networks to provide the most relevant information and, unlike other sources, are trusted not to distort it because they have no interest in discouraging migration (Boyd, 1989; Hernández-Carretero and Carling, 2012; Koser and Pinkerton, 2002). Although the media increasingly play a role as providers of information to prospective migrants (Dekker and Engbersen, 2014), information transmitted in this way is only selectively accepted. In some countries, migration-discouraging campaigns have been launched. In Senegal, for example, a state-initiated information campaign was introduced to warn potential migrants of the dangers of crossing the Atlantic Ocean to the Canary Islands. Most aspiring migrants discredit this type of information. Information provided by other official sources, however, is often so complex that migrants have to turn to information agents, who translate the information into a comprehensible language and are more aware of what information migrants need (Guilmoto and Sandron, 2001; Poot, 1996). Complex information often relates to legal permits and migration regulations provided by official institutions and are only understood by high-skilled migrants. Thus, even in the current 'information age' (Castells, 1996), migrants may have difficulty in

obtaining the information they need, as the sources they consult do not always provide the relevant information for migration.

When undertaking irregular journeys, migrants often have to rely on non-institutional sources of information, such as that provided through smugglers. Smugglers usually have detailed knowledge about asylum policies in the areas in which they operate, as they are responsive to the opening and closing of border crossings and know for which countries visas are required and with which countries readmission agreements have been signed (Koser and Pinkerton, 2002). Less research is available on the extent to which smugglers share this type of information with migrants. In some cases, smugglers share detailed advice but, in others, migrants are provided with distorted information or even deceived. Koser (1997) found that most of his respondents (Iranian asylum-seekers in the Netherlands in the 1990s) had been given very precise information by smugglers. Several respondents had been trained by smugglers on how to dress, behave and respond to questioning by border police and immigration officials. van Liempt (2007) made similar findings among asylum-seekers from the Middle East, the Horn of Africa and the former Soviet Union in the mid-2000s in the Netherlands. However, she also found that some smuggled migrants were dropped by their smugglers without any information and were completely left on their own. The relationship between smugglers and smuggled migrants seems crucial for understanding these differences. When smugglers are embedded in migrants' networks, it is less likely that migrants will be betrayed. When the relationship is more anonymous, things are more likely to go wrong (van Liempt, 2007).

The rapid development of mobile technology can have implications for the relationship between migrants and smugglers. Migrants can now easily share the contact details of smugglers while on the road. At the same time, smugglers have also started to use social media to offer their services more effectively. Several Facebook pages are available through which smugglers advertise their services and sometimes make generous offers for certain destinations (Brunwasser, 2015). In other Facebook groups, migrants can check the reliability and trustworthiness of certain smugglers and share information on who is best to contact. Social media and the use of mobile technology can assist migrants in making more informed decisions on whom to trust. Smugglers who succeed in delivering their clients to the preferred destination will be considered more reliable and will therefore be more successful in obtaining new clients through the social network of former ones [Triandafyllidou and Maroukis, (2012), p.200].

3 The digital divide: migrants' differential access and experience with mobile technology

At present, the development of mobile technological devices, such as mobile phones and smartphones, has a significant impact on the experiences of travellers. Friends and family are kept up to date with travel information through Facebook and text messages, and photos of the journeys are uploaded (Germann Molz and Paris, 2015). Next to their social functions, smartphones can also fulfil a symbolic function, as they might give travellers the feeling that they can always call for help when needed and make them feel safer.

So far, no research has been carried out on migrants' use of mobile devices with access to the internet (hereafter called 'smartphones') during their (irregular) journey, but some studies have focused on the impact of ordinary mobile phones during the migration

process (Collyer, 2007; Schaub, 2012). Schaub (2012) makes a distinction between the infrastructures and the institutions that facilitate migrants' connectivity during the journey, and how the use of mobile phones enables migrants to connect with geographically dispersed networks of family, friends and co-migrants. Mobile devices are also helpful when financial resources are needed to continue the journey. The availability of smartphones has even made migrants so independent that they can sometimes organise their journey (or parts of their journey) by themselves, without the help of smugglers. Collyer (2007, p.674) introduces the term 'do-it-yourself migrants' in this regard.

However, not all migrants are able to make effective use of ICTs during their journey. Hamel (2009) argues that there is a 'digital divide' which means that access to and the ability to use different forms of ICTs is unevenly distributed between countries and certain social groups. In Afghanistan, for example, only 2% of the population has internet access at home, compared to 39.4% of Syrians and 35.8% of Iranians [as a comparison, in the Netherlands 94.6% of the population has internet access at home (ITU, 2014)] These figures imply that only a very small part of the population in countries like Syria, Afghanistan and Iran (usually from the more highly educated segments of society) has become familiar with the possibility of obtaining the information and communication that the internet offers (Hamel, 2009). In Iran, Syria and Afghanistan, mobile-broadband penetration figures are also still low – between 3 and 5%– compared to the Netherlands, where this figure is 62% (ITU, 2014). In Syria and Afghanistan, these low figures can be explained by the outbreak of war and economic underdevelopment; in Iran access to ICTs and certain websites and apps is controlled mainly by the state. For (potential) migrants, this can limit their ability to gather information about future migration opportunities and while on the road, migrants with few ICT skills might be less able to access sources of information to facilitate their journey. In this way, mobile technology could have an impact on the selectivity of migration, as it initially attracts the more educated persons in a society [Massey et al., (1993), p.453].

4   Methodology

This research used the methodology of 'trajectory ethnography', developed by Schapendonk (2011), in order to follow respondents for a longer period of time. Trajectory ethnography is a good example of a mobile method whereby researchers 'physically travel along with their research subjects' and can therefore track how they move through time-space [Büscher and Urry, (2009), p.103]. It goes beyond multi-sited ethnography, which analyses the interactions between two or more places within a world system (Marcus, 1995) and focuses instead more on movements *through* places, thus employing a translocal perspective [Schapendonk, (2011), p.52]. The method is especially useful for studying the (irregular) journeys of migrants and refugees, who can find their movement blocked by increasing border controls. The method takes the journey of the respondents as the central unit of analysis and investigates how migrants travel from point A to point B to point C, and perhaps onwards to point D, making it a very open-ended research strategy. The trajectory ethnography method enables the researcher to study how migrants develop alternative routes and new strategies while being temporarily immobilised in 'transfer points' or 'places of in-betweenness' [Büscher and Urry, (2009), p.108].

While most research methods are only able to take a snapshot of migrants' journeys or lives, trajectory ethnography has the distinct advantage of being able to acquire a very complete picture of the journey. It allows the researcher to interview respondents at exactly the moment when they are making choices about their onward journey, and to capture changes in their decision making and the motivations behind them. Later, the researcher can also retrospectively probe the extent to which goals and plans were actually realised during the trip and the reason for their success or failure, resulting in very valuable data that can advance our understanding of irregular transit migration.

Mobile communication devices also have advantages for the researcher, whose physical presence is not a prerequisite for following the respondent. By using mobile technology him/herself, the researcher can easily track several respondents through various locations and over a longer period of time. This enables digital observations of fluctuations in respondents' perceptions of their migratory journey and the intended destination. Despite its innovative qualities, trajectory ethnography has some disadvantages and challenges as well. As the method focuses on the individual journey and not on the interactions between places, the researcher is less able to investigate the larger social contexts of the places through which migrants pass and to analyse how they are positioned in their location at that particular moment. One example is the existence (or absence) of certain 'infrastructures' that enable migrants' mobility from one place to the other, such as money-sending agencies or internet cafés along the route [Sheller and Urry, (2006), p.212].

Following migrants' journeys can offer very rich insights into the trajectories of these people, who are often literally and figuratively at a crossroads in their lives. However, the dangers involved in irregular border crossings and the deception they experience along the way make the relation between migrant and researcher very unequal. Several respondents asked the research team to give them money in order to finance the rest of the journey and/or wanted advice on how to reach the intended destination. Providing this would have seriously impacted on the direction of the journey, but sometimes it was also hard not to get involved emotionally, especially when following families with children. One example is the discussion we had with 18-year-old Hossein, who asked us to lend him a large sum of money because he had received an offer from a smuggler who could take him from Athens to the Greek harbour town of Patras and help him to climb into a truck boarding the boat to Italy. We told Hossein about the risks and dangers involved in this option, but offered to go with him to Patras if he did decide to go. Eventually, Hossein and his friend found a smuggler who was willing to take him to Hungary and be paid on arrival. After a short stopover in Hungary, he made it to Germany.

The research team refrained from lending large sums of money to respondents, but did pay for food, drink and transportation during the interviews; sometimes, too, they gave away some of their own clothes and personal hygiene products. Twice, accommodation was provided to respondents who otherwise would have needed to sleep outside, and once a researcher gave some money to a respondent whose wallet had been stolen. We also bought a cheap mobile phone for one of the respondents, so that we could call him and arrange meetings later on. In terms of advice, the researchers did not refuse to provide information about destinations and travel routes, but emphasised that, if migrants based their choice on this information, it would be at their own risk. Several respondents asked about facilities in the Netherlands and, when that happened, the researchers made it clear that they would not be able to host or help them indefinitely if

they arrived there. Two of the 11 respondents did eventually end up in the Netherlands, but this was because they already had friends living there.

5   Our sample

The fieldwork consisted of multiple interviews with and ethnographic observation of 11 Afghan, Iranian and Syrian migrants in Turkey, Greece, Germany and the Netherlands. These migrants were followed intensively for a period of between four and eight months. In addition, incidental and shorter conversations were held with one smuggler and with 34 migrants from Iran, Afghanistan and Syria (21 in Turkey and 14 in Greece). Finally, meetings were held with representatives of seven Turkish and Greek NGOs active in the field of migration and asylum.

Our initial contact with migrants was at two important transit points: Turkey and Greece. Fieldwork in Turkey was carried out between March and May 2015 in Istanbul, Izmir and the region of Bodrum. Fieldwork in Greece took place on the island of Lesbos and in the capital, Athens, in January and May 2015. Subsequent fieldwork locations depended on the actual movements of the migrants: two-thirds of the respondents were revisited in Turkey, Greece, Germany and the Netherlands in May and June 2015.

The language of the interviews was Persian (Dari/Farsi) for the respondents coming from Afghanistan and Iran. These respondents knew no language other than their own. As the first author speaks Persian, no translators were necessary for these conversations. Interviews with the two respondents from Syria were held in English and shorter conversations with Syrian migrants were translated from Arabic to Turkish by a friendly shop assistant.[2] Most interviews were held in restaurants, coffee shops, hotels and guesthouses and on coaches. The more structured interviews lasted between one and three hours and notes were made during or shortly after the interviews. Following the face-to-face interviews, contact was maintained on an ongoing basis through telephone calls and the various social media, such as Viber, Whatsapp and Facebook. Sometimes, contact was lost for a few days or weeks when the person was travelling, but then restored on arrival. Conversations were held through chat and voice messages, online voice calls and telephone calls, and most data were subsequently anonymised. The period of data collection officially ended in September 2015.

As shown in Table 1, the respondents had varying levels of education, which influenced their 'digital literacy' – that is, the ability of take advantage of opportunities offered through the internet and mobile technology networks. Dekker and Engbersen (2014) argue that younger and more highly educated migrants are better able to make use of the internet, while lesser-educated migrants rely more on traditional forms of communication. This also became evident through our research. For instance, the more highly educated migrants Rami and Hani generally had better computer skills (Rami even studied computer science in Syria). The lesser-educated migrants often knew how to use certain apps to communicate with their families and friends, but some migrants, such as the Afghans Ali and Hossein, were largely illiterate and had to rely on digital voice messages. Note, however, that migrants could also improve their internet skills through the act of migration, as being far away from their family would encourage them to find new ways to communicate [Dekker and Engbersen, (2014), pp.411–412].

Table 1   Names and characteristics of participants in trajectory ethnography

Name	*Country of origin*	*Gender/age*	*Level of education*	*Estimated spending on trip*	*Country of residence (2015)*
Hossein	Afghanistan	M. 18	Low	€2,000 from Afghanistan to Germany	Germany
Ali	Afghanistan	M. 15	Low	Unknown (paid by family)	Sweden
Mojtaba	Afghanistan	M. 19	Mid-high	At least €4,000 from Greece to Sweden	Sweden
Ehsan	Afghanistan	M. 30	Low	At least €1,750 from Greece to Germany	Germany
Shabnam	Afghanistan	F. 25	Low	At least €1,750 from Greece to Germany	Germany
Iman	Iran	M. 33	High	Unknown (mostly food and accommodation)	Germany
Hassan	Iran	M. 30	Low	Unknown (mostly food and accommodation)	Germany
Arash	Iran	M. 25	Low	Unknown (mostly food and accommodation)	Iran
Samir	Iran	M. 24	Middle	At least €1,000 from Turkey to Hungary	Germany
Hani	Syria	M. 27	High	At least €1,600 from Syria to the Netherlands	Netherlands
Rami	Syria	M. 25	High	Approx. €1,000 from Turkey to Netherlands	Netherlands

Note: Participants' names have all been changed to preserve their anonymity.

6   Which route to take? How mobile technology influences travel methods

In this part we describe how migrants' use of mobile technology can shape decisions about the routes they choose and the methods by which they travel. These include the choice of transportation (plane, boat, train or foot), and also a decision for or against the use of smugglers and forged identity and travel documents.

6.1   Stormy waters: migrants crossing the sea between Turkey and Greece

For several decades, Turkey and Greece have functioned as important transit hubs for people fleeing poverty and conflict in Asia, Africa and the Middle East (İçduygu and Yükseker, 2012; Papadopoulou-Kourkoula, 2008; Suter, 2012). Turkey's large informal economy and the existence of networks of human smugglers have made cities like Istanbul and Izmir important transit locations (Akınbingöl, 2003; Wissink et al., 2013) from where migrants make the 'final jump to Europe' [Schapendonk, (2011), p.146]. Since 2008, the sea route between Turkey and Greece has become more popular [Kuschminder et al., (2015), p.45] and, in 2015, the number of migrants using it skyrocketed to reach 851,319. Of this number, the majority were Syrians – 43% and

Afghans – 29% (UNHCR, 2015). Lesbos was the most popular transit route, with 59% of all migrants in Greece passing through the island (Hernandez, 2016).

Most of the migrants in our sample had also travelled through Turkey and Greece. The majority found a smuggler in Istanbul or Izmir and paid several hundred euros for the sea crossing between the western Turkish coast and the Greek islands (see also Triandafyllidou and Maroukis, 2012). It is important to note that, in the case of irregular migration, routes and trajectories are constantly changing and migrants make decisions on the next step based on the information and resources available to them at that particular point in time [Kuschminder et al., (2015), p.66]. Three Iranians in our sample – Iman, Hassan and Arash – travelled from Istanbul to Bodrum, planning to buy a boat and find a way to cross the relatively small strait between Akyarlar and Kos. By using Google Maps and asking friends via their phone, they found out where the best place was to depart from and at what time. However, while checking out the coastal area, they heard that the number of police controls had been increased and realised that undertaking the crossing on their own was too dangerous. Instead, they looked for a smuggler and found a local resident who was willing to take them to the other side by boat. Eventually, when price negotiations failed, the two brothers – Iman and Hassan – decided to buy a boat anyway and try themselves. After 12 days and one failed attempt, they arrived on the island of Kos, from where they moved on to the capital, Athens. This example confirms the finding that decisions on migration routes and methods are not defined from the outset and might change while in transit.

6.2   *Relying on smugglers or GPS? Migrants taking the land route*

> With your smartphone you can go to any city in the world. Just press a button and find out where you are. Wherever you go, just open your phone and use GPS. You don't have to be afraid! (Rami)

Thanks to the emergence of mobile mapping applications, electronic cartographic information has been liberated from the control of the state, academia and the corporate sector. Today the capability to both access and create spatial information is potentially available to anyone with a computer and an internet connection – "maps are no longer imparted to us by a trained cadre of experts, but along with most other information we create them as needed ourselves" [Crampton and Krygier, (2006), p.15]. Technological advancement in this area can also be of benefit to irregular migrants, who use GPS and other technology to cross borders without the help of smugglers. Instances of migrants using this strategy for crossing borders have been noted for the trip from Senegal to Europe (Tandian, 2009) and from the USA to Canada (Sersli, 2009). Mobile technology can thus enable migrants to become more self-reliant because they can check information on the internet about smugglers, travel routes and places to stay or they can ask friends through online social networks. The portability of this technology enhances migrants' flexibility and allows them to adapt their travel plans on the basis of changing circumstances (Schaub, 2012). Nevertheless, all the migrants in our sample relied on smugglers for certain elements of the journey, such as particular border crossings or the purchase of forged documents.

Figure 1 Map Turkey (see online version for colours)

At present, most migrants arriving in Greece travel onwards to Macedonia, Croatia, Slovenia or Austria and towards countries in Northern and Western Europe (UNHCR, 2016). After our fieldwork ended in the summer of 2015, unprecedented groups of migrants started to take this route independently, either on foot, by bicycle or by train. At the end of 2015 and the beginning of 2016, the high numbers of migrants resulted in alarming situations, as several countries in the Balkans started to close their borders in response to the influx. Although we are not aware of any research that has already been done on this, we assume that the extensive use of smartphones (especially by Syrian migrants) may have resulted in a decrease in the use of expensive smuggling services. This would enable more people to follow the Balkan route solely by depending on the information shared through published and social media, such as GPS coordinates, routes, border controls and transportation (Brunwasser, 2015)[3]. Of our sample, eight migrants took the land route through the Balkans and on to Hungary. All five Afghans made use of the services of a smuggler, and the three Iranians walked there themselves,[4] without a smuggler but with the help of applications such as GPS and Google Maps – available to anyone with an internet connection since 2005.

In the case of Iman and Hassan, decisions about the road ahead were a matter of weighing up the different routes and methods. They actively used their smartphones to consult friends about their options for the onward journey from Greece. They did not have enough money for both of them to be smuggled by plane to Western Europe, so the cheaper option was to walk from Greece to Hungary or Austria, a trip that would take two weeks. Iman and Hassan negotiated with a smuggler and asked him which route he would take. They then declined the services of the smuggler but made the trip themselves via the transit points the smuggler had indicated, using GPS and Google Maps. Iman had a clear preference for not relying on smugglers: "I don't trust smugglers enough to give them all our money. Besides, the smuggler only leads the way, but he cannot avoid the dangers that you might be confronted with".

The increasing ability of migrants to arrange their own journeys also draws attention to the sometimes blurry line between 'smuggler' and 'migrant'. The greater accessibility of GPS and other technological tools makes it easier for migrants to take others along on the trip and share their expertise. As Rami put it, "currently, it is so busy with refugees, and both the police and the refugees have more information about where to go. Now everyone is a professional. Now even the media on the television show the map of where you have to go".

Assisting others en route can be a way for irregular migrants to earn money to finance their onward journey. Arash and Samir, two Iranian migrants in our sample, had both run out of money and worked in Istanbul as recruiters for a smuggler, which allowed them to finance their onward journey. The increase in the numbers of migrants passing through Turkey and Greece in 2015 suggests that the opportunities for migrants to become active in the smuggling business have also grown exponentially.

6.3   *Travelling by air*

Rami, from Syria, discovered on the internet that airport security on certain Greek islands was very weak. He then decided to buy a fake identity card from a Syrian forger for €150 and searched online for cheap plane tickets with departure times that coincided with the security guards' shift changes. Rami purchased a flight from a Greek island towards Italy and then travelled to the Netherlands. He thereby followed the 'success story' of his friend Hani, who had also used fake documents and had flown from the national airport in Athens to Belgium. The fact that both Hani and Rami spoke English and knew how to buy plane tickets on the internet themselves was an enormous advantage when choosing this method. Both of them made use of forged documents, but did not hire a smuggler to arrange the flight. They checked out cheap flights on their smartphones and in internet cafés and then purchased them through a regular travel agency. For both Hani and Rami it made no sense to hire an expensive smuggler when they could find a way themselves:

> A smuggler takes a lot of money for nothing. It is so expensive. But you can actually do it by yourself. The only people who really need a smuggler are, for example, old people, or people who need special care. These are people who are not able to travel alone and need someone who guide them. (Hani)

7   Deciding on final destinations

Most of the migrants in our sample intended to move to a country in Western or Northern Europe. Sweden, Germany and the Netherlands were the most-cited destinations, and most migrants managed to get there eventually. Some migrants also had alternative destinations in mind, such as the UK, Norway and Canada but, in the end, these countries seemed harder to reach. Iranian migrant Samir, for example, had his mind set on Canada, but he still has not managed to reach there and is currently living in Germany. Hani would have liked to reach Norway or the UK; however, he is currently in the Netherlands, where his asylum application was accepted. Migrants who had spent a lot of money on smuggling services, such as the Afghan migrants from our sample, chose countries in North-Western Europe primarily on the basis of their economic prosperity [Kuschminder et al., (2015), p.56]. Migrants expected to find more work in richer countries such as Germany and Sweden, and this would allow them to pay back the

money that their families had invested in their migration. Another important aspect was their knowledge of the availability of welfare payments and services, such as unemployment benefits and state support for refugees. Information concerning these payments and services and economic prosperity was part of the general image the migrants had of these countries, but this information was also transmitted by family members or friends who had already arrived in the more prosperous regions of Europe. The presence of friends and family, the perceived climate of freedom and the opportunities for personal development also played a role in the choice of destination. For example, Iman, a filmmaker from Iran, saw his work constantly restricted by the strict Islamic regime in the country, and Hani and Hassan, both musicians, would love to develop their musical talent in a less restricted environment.

According to Kuschminder et al. (2015), three factors determine irregular migrants' destinations. Firstly, their socio-economic backgrounds and educational levels play a role; more highly educated migrants have greater influence over their eventual destination. Secondly, the smuggler often plays a role in determining the destination – though it also happens that he does not deliver the migrant to the agreed destination. Finally, while in transit, migrants access new information and develop new strategies for reaching their destinations by meeting other transit migrants or tapping into information flowing through social media networks [Kuschminder et al., (2015), p.67]. Our research shows that contact with family and friends has a significant additional impact on the migrants' ability to continue towards the preferred destination, and that most of the contact is nowadays conducted through mobile technology.

Hani's and Rami's stories illustrate the importance of social networks in deciding on a destination. They both wanted to go to the Netherlands because they had friends there. Hani left Syria earlier than Rami but the two friends kept in touch via their smartphones. On the day that Hani arrived in the Netherlands, Rami crossed over to Greece. Hani shared his knowledge and contacts about the journey, and both used the same Syrian forger to arrange fake ID cards so that they could leave Greece for a Western European country by plane. Rami arrived in the Netherlands two months after Hani.

8 Accessing funds through family and friends

It is well accepted today that 'patterns of migration are shaped by the resources migrants can mobilise, and those resources are largely determined by socioeconomic background' [van Hear, (2006), p.2]. The high fees charged by human smugglers, which are often higher than a migrant's average annual salary, have excluded all but the middle and higher classes from irregular migration [Collyer, 2007; Pastore et al., (2006), p.114]. Wealthier migrants and asylum-seekers are often able to travel further and reach the more preferred destinations in the world, such as Europe and North America.

For most migrants in our sample, contact with family members in the country of origin was a crucial condition for reaching the preferred destination in Europe. At different points during the journey they relied heavily on the funds that their families were able to send; these were all transferred with the help of mobile technology. Ali and Hossein, for example, travelled overland from Greece to Hungary with the help of a smuggler. However, in Hungary their smuggler was arrested by the police, and Ali and Hossein did not know where to go from there or how to organise the rest of their journey.

They decided to turn themselves in to the police and applied for asylum in Hungary. Ali actually wanted to move on to Sweden, but he had no money left. Through the mobile app Viber he stayed in contact with his sister in Afghanistan and, after three months, she eventually raised enough money to 'send' Ali to Sweden with a smuggler.

Less dramatic was Mojtaba's travel to Sweden. Mojtaba is an Afghan migrant whose father was able to spend a large amount of money on a smuggler he already knew and who could reassure him that Mojtaba would not get caught in Hungary. Mojtaba was constantly on Viber talking with his father back in Afghanistan, who actively helped him to find a good smuggler. It was probably because of his strong negotiating position and the direct help from his father that Mojtaba managed to arrive in Sweden directly without any problems. This illustrates how the advancement of mobile technology better enables migrants to organise their journeys; they do this by constructing geographically dispersed 'hybrid networks' of smugglers and key informants at different points along the way, and with family members back home [Schaub, (2012), p.135]. Through staying in contact regularly and at little expense, the family of the migrant can become more closely involved in the decision-making process in the transit country and influence the direction of the journey (Papadopoulou-Kourkoula, 2008; Wissink et al., 2013). This often means that smartphones increase migrants' chances of reaching a certain destination, even after unexpected events such as the arrest of Ali's smuggler in Hungary.

Figure 2   Family using smartphone (see online version for colours)

For migrants lacking strong ties with family members in the country of origin or abroad the migration journey can turn out quite differently. Arash is a 21-year-old migrant from Iran, who lost all his money after he arrived in Turkey. While in Bodrum, he found a smuggler who could take him to Greece for €500. Unable to ask his parents back in Iran, Arash used Viber to call his aunt in Germany, whom he had not seen for three or four years. However, the aunt refused to send him money. Eventually, Arash found work in an Iranian restaurant in Istanbul and recruited people for a smuggler he had befriended, who then helped him to cross to Greece. From there, he walked all the way to Hungary. The story of Arash illustrates that migrants without strong ties, whether in the country of

origin or in that of destination, usually have longer journeys and more difficulty in reaching their intended destination (Herman, 2006). It took Arash a total of nine months to travel from Iran to Hungary.

9 Dead batteries and no Wi-Fi: what if access to mobile technology is limited?

When confronted with unexpected situations, migrants relying on mobile technology can face serious problems. Their phones might get damaged or stolen, or migrants may not have access to the internet because they are in a remote area or are unable to charge their phone; fear of detection sometimes inhibits migrants from charging their phones. Being offline for a while may have an impact on how journeys evolve. For example, in September 2015 Iranian Samir flew with a fake passport from Turkey to Hungary. He got caught at the airport in Hungary and spent two weeks in prison, where he could not use his smartphone. When he was released, he told us that he was planning to cross the border to Austria and Germany by using GPS. We told him about the recent surge in migrants freely crossing the border between Hungary and Germany by train. As Samir had been cut off from both the internet and his social networks for a while, he was unaware of these recent developments.

More 'embodied' information and local knowledge can sometimes provide more security and ensure a safer and easier border crossing than trying to cross on one's own. Migrants with a higher level of migration-specific or local knowledge may turn out to be more successful in their journey. Acquiring knowledge, including of who to trust and who not to trust at the various transit points, leads to what Suter (2012, p.198) calls 'migrant capital'. Iman, Hassan and Arash only stayed in Istanbul for a short while, and rented a room in the migrant neighbourhood of Aksaray:

> In Aksaray, a lot of information is circulating: everyone tells each other things. On the third day that I was in Istanbul, an Iranian guy approached me and said 'I can take you to Europe for a small amount of money'. But I did not trust that, because why would this guy do such a risky thing for such a small amount? Smuggling has value, it should be somehow expensive. So there are a lot of people here that you cannot trust. We don't know anyone in Turkey, but with more people you have a stronger position, you can reach out and help each other if something happens. Therefore it is better to stick together, as a group, and form a unity, especially when you come from the same town. (Iman)

This quote shows that smugglers who charge too little are not trusted. van Liempt (2007) found that, when smugglers charge too much, migrants may also be suspicious because it might indicate that they do not care what happens to the migrants and are only in the business for the money.

Finally, knowing a foreign language such as English also emerged as a vital aspect in the organisation of migrants' onward journeys; the lack of good language skills made it more difficult to get access to the type of information needed for a successful onward journey. Samir, from Iran, spoke only limited English and this made it difficult for him to do online research on his journey. He bought a fake Macedonian passport from a smuggler and wanted to travel to Spain. He had not been able to check any information online about this journey and the means of travel because of his language problems. Eventually, Samir was caught while boarding at the airport in Istanbul, as the security

guards found out that the Macedonian passport did not belong to him. He lost the passport, for which he had paid US $1,000, but managed to escape and later on he made another successful attempt to fly to Hungary. Hani, who speaks English very well, reflects on the role of language:

> Language was the most important thing for me in passing. If you don't know English, only a small percentage of people would be able to pass with an airplane. I think that if I would not have known English, I would have probably travelled overland.

On the other hand, our research also showed that migrants who lacked certain language skills were, nevertheless, able to get by through the use of mobile technology. Iranian migrants Iman and Hassan spent a couple of weeks in a guesthouse in Turkey, but, as they could speak neither Turkish nor English, they were unable to communicate with the owner of the guesthouse. Iman then downloaded the app Google Translate on his phone, which enabled him to exchange information or ask questions of the guesthouse owner when necessary. The young Afghan migrant Ali (15) spoke no language other than his own and was illiterate. This made it difficult for him to write messages to friends and family, but, with the app Viber, he was able to send voice messages of a maximum of 30 seconds, or to make real-time telephone calls.

10 Conclusions and ways forward

This article is a first attempt at analysing how mobile technology is effectively transforming contemporary migration flows. More substantial work is needed on the role of mobile technology in irregular migration processes. Our fieldwork showed that mobile technologies and smartphones have the potential to increase migrants' mobility through enlarging their access to online information during the journey and by consolidating existing migration networks. Smartphones have also proven to be useful in promoting the growth of new interconnections with migrants en route, who are considered more trustworthy because they have already completed the journey. Mobile technologies thus change the underlying dynamics of how irregular migration evolves. They potentially give migrants more autonomy in organising and funding their journey; they also enable smugglers to communicate and spread information faster and more widely than before. More empirical work is necessary in order to understand the underlying dynamics of irregular migration processes in the current digital age. Trajectory ethnography thus seems to be an ideal method for capturing the dynamics of and differentiating between the various types of migrants. We found, for example, that differences in educational background, digital literacy and foreign language skills have an important effect on migrants' ability to actually use and profit from mobile technology. However, not all migration-related information obtained through mobile technology is trustworthy, updated or understandable for migrants. As a result, crossing borders irregularly still forces migrants to make many strategic choices concerning the continuation of their trip.

Acknowledgements

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Notes

1   The names of all our participants have been changed to preserve their anonymity.

2   The first author also speaks Turkish (but not Arabic). The fact that Hani and Rami spoke English positively affected the contact established with them during our research and guided our choice to follow the trajectories of Hani and Rami and not other Syrian migrants who only knew Arabic.

3   All our respondents undertook their journey in May and June 2015, thus preceding the more massive movement of migrants which has presumably been very different in character and possibly does not resemble the trajectories of the migrants presented in this study.

4   Iranian migrant Samir bought a fake passport and travelled by plane from Turkey to Hungary. This is a less used and allegedly risky route, as Turkey is outside the EU and therefore applies stricter border controls for passengers travelling to European countries.