

Migration and information flows

A new lens for the study of contemporary
international migration

Working paper

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Abstract

This working paper aims to establish a new field of research at the crossroads of migration and information and communication flows. There are several factors which make this a worthwhile perspective to adopt. The central point is that contemporary international migration is embedded in the dynamics of the information society, following common patterns and interconnected dynamics. As a result, information and communication flows are now starting to be identified as key issues in migration policies. In addition, there is a lack of empirical knowledge on the shaping of information networks and the use of information and communication technologies in migration contexts. This working paper also aims to serve as a source of hypothesis for further research.

Keywords

interconnection, information and communication flows, migration, networks, new technologies of information and communication and information society

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“Owing to the communications and transportation revolution, today’s international migrants are, more than ever before, a dynamic human link between cultures, economies and societies. Penny-a-minute phone cards keep migrants in close touch with family and friends at home, and just a few seconds are needed for the global financial system to transmit their earnings to remote corners of the developing world, where they buy food, clothing, shelter, pay for education or healthcare, and can relieve debt. The Internet and satellite technology allow a constant exchange of news and information between migrants and their home countries. Affordable airfares permit more frequent trips home, easing the way for a more fluid, back-and-forth pattern of mobility.”

Kofi Annan

Globalisation and Interdependence: International Migration and Development
Report of the Secretary-General of the United Nations, 18 May 2006

1. MIGRATION IN A SPACE OF FLOWS

At meetings in Spain called to deal with migratory situations such as the arrival of unaccompanied immigrant minors and the presence of African irregular workers in the country’s agricultural regions, Spanish politicians have argued that it is often necessary to send out counterfactual information to immigrant groups and regions by means of television programmes, text messages or simply by placing signs in key positions such as Internet cafés and call shops.

The French interior minister, Nicolas Sarkozy, has suggested that the Spanish government’s decision in 2005 to offer an amnesty to nearly 600,000 illegal immigrants contributed to the rise in the number of illegal immigrants in 2006 because “legalisations en masse act like a magnet on other potential migrants”. This supposed magnetic attraction through information flows is now frequently used in Spain by politicians scaremongering about the issue of immigration.

When African migrants make a clandestine journey to the Canary Islands on board *cayucos* – with their families unaware of their venture – the first thing they do when they land is make contact with the country they have left behind. It is a mobile phone which enables contact with their family of origin.

Today, the real battle in immigration policies is being played out in the information domain. As a result, information control is becoming a key aspect of immigration management.

Immigration policies, however, do not consider information and communication flows as an area for action. There is a complete lack of knowledge of the ways in which information flows shape the movements of people around the world.

Our perspective on migration will place new information and communication possibilities at the core of our work. Before starting our long project, though, let’s see three contemporary images of migration:



Picture 1



Picture 2



Picture 3

The first photograph shows an African woman using a mobile phone to talk to members of her family who have emigrated. In the second photograph, a mother and child are talking on the phone in an Internet café. The third photograph was taken at Madrid international airport when hundreds of Ecuadorian and Argentinean immigrants were stranded when the low-cost airline with which they planned to return to their home countries for the Christmas holidays was forced to suspend all operations.

Contemporary international migration is embedded in the dynamics of the information society, following common patterns and interconnected dynamics.

Without the existence of the information society, contemporary migration patterns would look totally different. For instance, remittances would not be possible without the existence of money-transfer technology, and networks of family and friends would have developed very differently without the use of prepaid mobile phones and the development of the Internet.

The sooner and better we understand information and communication conditions and flows, the sooner and better we shall understand international migration. This understanding is crucial if we wish to see improved policies for managing migration.

1.1. Interconnections

The last decades of the 20th century were characterised by an increase in the movement of capital, goods and people internationally. This constant movement is known as globalisation. Distances have shrunk and ease of movement has become the key factor in international communications.

Globalisation has created an interconnected society, or in the words of Castells (1996) “a networked society”. The key element to note is the connectivity between people and places which globalisation has created and continues to generate.

Our perspective will place international migrations within the context of globalisation and the information flows which make it up.

A networked society is defined as a society made up of power, wealth, management and communication networks within the fabric of the social structure (Castells 2003: 33). Information and communication technologies (ICTs) – and the information flows they generate – are the driving force that has enabled this kind of society to develop. The key elements in our area of research are the networks that make up this new kind of society which since the mid 1990s has been extending the risks and opportunities offered by ICTs within this model of political, social, economic and cultural organisation.

The concept of interconnection refers to the mechanisms which facilitate communication between people regardless of where they are, and acts as an element of social change which affects society as whole. This concept is contextualised within the information society – the stage upon which new ICTs are played out.

As Castles (2001) points out, the fact that interconnection changes the very nature of international migrations calls for new approaches from within the social sciences. In relation to the movement of people, interconnection is a new element which needs to be taken on board to understand who they are and which trends migrations are currently following.

International migrations are an expression of this interconnection. The 2004 UN Population Division predicted a total of between 185 million and 192 million migrants by early 2005. Migration flows have shifted in recent years and migration today affects every country in the world. Migrants represent an important actor in the process of globalisation.

Nevertheless, a lack of institutionalised international management and an absence of decentralisation and a global vision of migrations characterises the alienation of migratory movements within this networked society.

As a result, the spectacular increase in connections between individuals, spaces and economic agents which influences, for example, production and financial systems, also occurs in the field of international migrations.

From our perspective, current international migration is the inevitable result of the interconnection processes generated by the communication and information flows. Information and communication networks are stimulating and bringing about changes in the trends and meanings of the movement of people around the world. Without the intensity of the interconnections it is difficult to imagine migratory

movements like the current ones, in terms of both the countries of origin and host countries.

Although migrations have always implied communication networks between two or more points, the present-day intensity and velocity of these communications now means that this issue has effects on migratory movements in countries of origin and host countries alike. Some of the first effects which can be observed are:

- Low-cost, accessible opportunities to return to the country of origin.
- Easy communication with the country of origin.
- The strength of family-reunion processes.
- Movement of people (e.g. within Europe) in the processes of extraordinary work and legal regularisations.
- Appearance of new immigrant groups who base their migratory strategy on high connectivity (e.g. emigrant mothers and unaccompanied minors)

In the words of the 2005 IOM report, “[g]lobalisation has greatly expanded the means by which migrants can remain actively involved in the economic, cultural, social and political life of sending countries. Financial remittances, Internet communications and travel, diaspora and hometown associations, and other mechanisms for expatriates to reside abroad and maintain ties with their country of origin are today creating powerful tools for development.” (IOM 2005: 15)

The question inevitably arises of what opportunities and challenges ICTs will present in terms of future trends in migration flows, and in particular, integration processes. It is still too early to know; for the moment, we shall limit ourselves to identifying a few of them:

Opportunities:

- Co-development – migrations can now create more wealth in countries of origin in less time than ever.
- Democratisation and opening-up of countries of origin.
- Contracting foreign labour through established immigrants who act as selection agents.

Challenges:

- New conflicts of identity.
- Integration problems.
- Difficulties in managing movements of people.

1.2. Communication flows in migration contexts

According to data from the International Telecommunication Union, international communications traffic has grown enormously. Between 1989 and 1999 international telephone traffic quadrupled (TeleGeography 2001, in Monge and Adam Matei), International communications have increased in recent years thanks to the development and accessibility (lower cost) of new information and communication technologies. Connecting people has become a successful area for business.

As Monge and Adam Matei (2004) point out, in some Western countries the cost of international calls has fallen tenfold. Deregulation has increased competition. The growth of international transactions in monetary, financial, commercial and intellectual domains could explain a sizeable proportion of this increase. However, the increase in international communications is also due to international migration.

Referring to the increase in information flows in the context of immigration, Vertovec states that currently “the matter of degree really counts. The extensiveness, intensity and velocity of networked flows of information and resources may indeed combine to fundamentally alter the way people do things” (2004b:8). International telephone calls, as one of the most significant infrastructures that may facilitate contact, doubled between years 1985-1995 (Guillén 2001). According to recent studies, the environment of migrations – both the region of origin and the destination origin – are affected by an increase in communication by the use of mobile phones, amongst other means (Vertovec 2004b). Horst argues that increased communication in Jamaica “enabled through the presence of house phones and especially the ownership of mobile phones has led Jamaicans to more realistic expectations of the migration experience and opportunities associated with living abroad”(2006:155).

Connecting the increase of communication flows to immigrations contexts, Vertovec refers to data from the telecommunications consultancy TeleGeography. According to this consultancy, “there is a high increase in the growth of telephone traffic between countries with strong migration connections; looking at the number of minutes of teletraffic between specific countries with strong migration connections in the years 1995 and 2001 data, they suggest a remarkable growth in traffic” (2004:10). International calls from Turkey to Germany, from Pakistan to the UK and from the UK to Pakistan, to choose some examples, have increased sharply, although international calls could be accounted for by the business market as well as by family and friends connection.

The development of prepaid phone cards doubled between the years 2000 and 2002, and international calls account for half of all traffic (Brown 2003, Wolfe 2002). Prepaid calling cards mainly used in ethnic markets by first-generation immigrants (Mensah and Smith 2002). Telephone companies have clearly invested in ethnic markets, offering low-cost packages for calling home. Telecommunications infrastructure in developing areas is having a great impact when there are migrant connections (Vertovec 2004a). As Horst (2006) analysed in the case of Jamaica, mobile phone use in some underdeveloped countries is on a par with developed countries.

International communication costs fall at very fast rate. Governments put pressure on mobile phone companies to cut interconnection rates, and as a consequence, mobile interconnection rates have dropped. In many Western European countries, rates have dropped by 40 per cent since 2004 (TeleGeography 2006:12).

“The random nature of these costs is often negotiated in the lofty spheres of politics and patronage of national and international agreements and initiatives rather than among the migrants” (Panagakos & Horts 2006: 114). Economic

interests are not only influencing the price of airline tickets, prepaid cards, remittances costs, mobile phone calls and text messages, but are also behind the launch of campaigns and offers combining several of these products.

Telecommunications infrastructures are spreading in developing (and sending) countries, as well. According to TeleGeography research data, the ten fastest growing markets between 2000-2005 were Nigeria, Ecuador, India, Pakistan, Kuwait, El Salvador, the United Arab Emirates, Bolivia, Senegal and Venezuela. In all these countries, mobile phones have outnumbered landline phones since 2002. Mobile subscriber growth has combined with the deregulation of the international services market to fuel very rapid international traffic growth in several developing countries (TeleGeography 2006:13). New technologies around telephoning and communicating are having an impact in less-developed, emigrating contexts. Vertovec gives examples of programmes to allow Mexican-Americans to pay for communication services in Mexico. Reverse-charge services are significantly cheaper than years ago (2004b:12). Even if we should 'discount' the global effect in the growth of international communication, the hypothesis of a communication increase in migration contexts does not seem mistaken.¹

1.3. From interconnection in migration to disconnection in politics

This emphasis on interconnection may appear to be in stark contrast to the high level of disconnection that characterises migration politics. Migration is the missing part of globalisation. Analysis of the information society has revealed that the circulation of people is one of the most visible missing elements of global trends (Castells 1998, Held 1999). The barriers removed to favour international trade and movements of capital are still standing in the case of movements of people. In fact, migration today is a more difficult, uncertain, and risky activity than it was 25 years ago. As Castells (1998) has pointed out, globalisation requires both interconnection of some elements and disconnection of others. Migration seems to fall in latter case.

The basic migration organisation continues to be the *state*. No other organisation has succeeded in transcending national boundaries and offering a new form of organisation to offer efficient management of international migration flows, using global communication and transport infrastructures. As Held points out, no "growing array of crossborder issues" has been developed in the organisation of migration (1999:9). There is no international institution for migration management to mirror the International Monetary Fund in the field of managing the global economy.

Although in other fields states are being redefined and even restructured in response to the growing complexity of the processes of governance in an increasingly interconnected world (Held 1999, Rosenau 1997), they are still ahead in the governance of international migration. State efforts at immigration follow a somewhat neoclassic approach: massive state control apparatuses (Waldinger 2003:17), control policies at the border, punishing employers, or barring

¹ We should like to thank researcher Mireia Fernández Ardèvol for her comments on this point.

immigrants from social aid do not produce the desired effects of reducing entry (Massey 1998:288). The role that states have played to pursue cooperative strategies and to construct regulations to manage state institutions more efficiently has not been applied to migration policy. Migration is still a matter of sovereignty and states want to control everything related to this issue (Castles and Miller 1993).

As a result of this disconnection, Massey (2004) identifies some policy mismatches that policymakers should take into account when elaborating new policies to manage migration:

- a. A widening rift between migrant-export policies in sending countries and immigration policies in host countries, which could produce North-South tensions over migration.
- b. There are contradictions between immigration policies and realities in developed countries. The consequence is that immigration policies rarely achieve their stated goals and frequently produce outcomes which are the opposite of what policymakers intended
- c. A contradiction between policies that increase the free movement of goods and capital across nations but leave migration – the movement of people— off the negotiating table.

International reports

Interconnection, as one of the defining features of contemporary migration flows, is one of the 'missing' factors in the main reports on international migrations.

What all these international reports do have in common is a defence of a global, coherent and comprehensive focus on migration flows. For example, the 2005 World Migration Report from the IOM revealed the lack of coordination between institutions and the absence of well-defined lines of action, and argued that the process of institutionalising the management of international migrations should be a priority.

The presence of global networks offering privileged information to potential migrants is recognised in one of the international reports consulted: the United Nations Global Commission on International Migration states that “global communications networks provide people with the information they need to move from one place to another [...] have made it easier for people to move to another country and to adapt to a new society” (GCIM 2005: 7). The close connections between migration networks helps explain the high concentration of immigrant communities in ‘global cities’: “dynamic, innovative and highly cosmopolitan urban centres that are enabling people, places and cultures in different parts of the world to become increasing interconnected.” (GCIM 2005: 5)

2. INTERNATIONAL MIGRATION IN THE INFORMATION SOCIETY: THE THEORETICAL APPROACH

From the extensive literature on international migration in the information society, we have chosen the approaches we identified as relevant to understanding the role of interconnection in international migration. In this short review, we attempt to identify elements that help us understand the role of interconnection.

Firstly, researchers on new trends in international migration state that the current movements of people are characterized by their global scope and that the same factors that promote globalisation of finance and trade also affect migration. Globalisation needs people moving around the world. Foreign workers are needed to work in segmented labour markets in developed countries to sustain their economic growth. We shall develop Castles' contributions in that direction. The information society requires labour from migration.

Secondly, the identification of migrant networks as key elements in the new dynamics of migration represents a great contribution. Migrant networks mean that the causes of current migration have become independent from the original causes of the first movements of people. The first migrants decided to emigrate driven chiefly by economic reasons. Now, the decision to migrate is independent of migrants' economic status and other factors as family strategies to diversify risk grow in importance. As this subsection will show, the settlement of the first migrants and the existence of migrant networks leads to people's migration project determining the destination region and making it easier to find employment and accommodation in the destination society.

Finally, the literature on transnationalism shows that maintaining ties and interconnections between sending and destination societies is the basis on which migrants construct their lives. Connectivity is crucial to explaining the frequency and flexibility of migrants' relationships with their families and friends who stayed in the countries of origin.

Literature on the globalisation of migration, migrant information networks and migrant transnationalism theories all consider interconnection as a decisive factor in shaping international migrant flows. Although the three perspectives are articulated within the general context of the information society, none of them has focused specifically on information and communication networks. However, they contribute to the basis on which we shall develop our research.

2.1 Immigration in the era of Globalisation

Current international migration flows are intrinsically linked to globalisation and have assumed some of its patterns. According to Castles (2002), migration is one of the key forces of social, political and economic transformation in the present day.

“Migration ranks as one of the most important factors in global change” (Castles and Miller 2003: 4)

As a force of social transformation, current international migration presents key elements that differentiate these new movements of people from past migration trends. Castles and Miller (2003) argue that new international migration is differentiated by its global scope, its centrality to domestic and international politics and its significant economic and social consequences.

The effects of globalisation on developing countries may cause social crisis or imbalances at socioeconomic and political level as a result of the modernisation process linked to globalisation. Many people therefore decide to migrate in the hope of improving their lives. Castles and Miller (2003) note that it is worth considering the entry of countries in the South into international migration flows as new trends resulting from the integration of these areas into the world economy and global systems.

Castles and Miller (2003) refer to this phenomenon as the globalisation of migration. The increasing scope of globalisation is expanding the effect of international migration. There are more countries affected by migration, and more countries in the developing world have emerged as new sending societies.

Migration channels have increased in recent years. As a result, more people can afford the cost of migrating. Castles and Miller (2003) note that once migrant people arrive in one country, it makes it easier for other migrants to arrive as well. The migration chain implies that several kinds of migration will occur. It does not matter which kind of migrant –foreign workers or asylum seekers might have arrived first. Once the first migrants have arrived, receiving countries will have to manage different kinds of migrants.

2.2 Migrant networks and information flows

Migrant networks have emerged as a key factor in international migration. The theory of migrant networks is one of the most compelling approaches to migration from an information society perspective. As Charles Tilly stated, “networks migrate”. Considering the high risk factor that long-distance migration entails, “reliance on established interpersonal networks of information minimises and spreads the risks.” (Tilly 1990:84). Therefore, information networks entail both opportunities and constrains, since they draw the map of destinations, possibilities and chances. “The network itself emerges as an actor in the migration process” (Light et al 1989).

At the bottom line of this theory is the recognition of information and communication flows as key issues in international migration. Two of the elements in the explanation of international migration – the role of households which by diversifying risks form ‘units’ of international migration and the increase of networks that capitalise migrants and articulate an institutional environment for international migration – are informational.

Douglass Massey (1998, 2004) argues that whilst past migration trends were essentially motivated by improving standards of life and household incomes,

current international migration seems to be independent of these original causes. Today migrants look for obtaining better salaries in destination countries, but it is equally important to them to think about the migration project as a risk-diversification strategy or a mechanism to save family incomes when credit or bank systems do not work in the countries of origin (Massey 1998, 2004). This means that migration has evolved from an individual decision to a family decision. According to Massey, family network decisions not only maximise earnings but also minimise the risk of potential conflicts, natural disasters or political or social crises arising from modernisation processes or economic recessions (Massey 1990). The social structure of migration explains why migration is still present in situations of falling wage differentials and implementation of restrictive migration policies.

Migrant information networks have become the main channel connecting sending and receiving countries. The first migrants develop interconnected nodes that provide information to potential migrants about several country destinations or facilities for finding jobs or accommodation (Massey 1994). Previously, these networks did not exist to this extent and with their structure, operability and international nodes. Massey (1990, 2004) identifies this phenomenon with the *cumulative causation theory*.

Massey (1998) presents some elements of current international migration to help understand the role migrant information networks play in taking the contexts in sending and receiving countries into account separately but also in an interconnected fashion. Migrant networks may influence motivations that explain *why migrants decide to migrate*. There are structural forces that promote emigration from developing countries to developed ones and, according to him, we shall focus on what information migrants have and which information channels they use.

2.3 Migrant transnationalism

Migrant transnationalism theories not only deal with the maintenance of crossborder relationships; they also explain the economic, social and political impact that these interconnections cause in both receiving and sending countries. And this is what interests us most: how migrant transnationalism and the interconnections that characterise current migration flows reshape migrant relationships between receiving and sending countries.

Vertovec (2001, 2003, 2004a, 2004b), Portes (2001, 2003), Peggy Levitt and Nina Glick Schiller (2003), Caglar (2001) and other researchers have identified the main features of migrant transnationalism.

Caglar (2001) refers to migrant transnationalism as the maintenance of crossborder connections at a particular intensity and frequency. She asks how migrants construct and reconstitute their lives as simultaneously embedded in more than one society. In the area of ICTs and interconnection, we should ask which channels migrants use to maintain family, friends, gender and community relationships and to what extent.

Most of the literature on migrant transnationalism also looks at identities and how migrants combine their national identity of origin with the new one they find in destination countries. According to Vertovec (2004b), migrants become a link between countries of origin and destination countries. It is therefore important to identify how national governments in receiving countries deal with migrants' multiple identities, and identify the interest governments in sending countries have in maintaining the original identity of their citizens abroad. Interconnection will play a determining role in the construction of migrant identities.

The impact of transnational migrant affects both sending and receiving countries and also has an economic, cultural, social and political dimension. Vertovec (2001) identifies some of these impacts:

- An economic impact. The massive flow of remittances that migrants send to their families and communities in the sending countries [*How do families, both here and there decide to spend remittances?*]
- A social and cultural impact. The maintenance of close ties and exchanges between sending and receiving countries. Transnational connections enable migrants to maintain collective identities and practices as never before [*Which mechanisms do they use?*]
- Political impacts. Questions about dual or multiple citizenship and policies in the countries of origin.

However, more interesting is the degree of movement in transnational migration practices and the influence information flows produce on these practices. Vertovec (2003) refers to those who travel regularly between specific sites; those who stay mainly in one place of immigration but engage people and resources in a place of origin; and those who have never moved but whose locality is significantly affected by the activities of others abroad.

3. NEW ELEMENTS FOR THE ANALYSIS OF MIGRATION

3.1. The analysis of flows

In the information age, the increases in communication and information flows are dramatically changing the nature of migration flows. But...how? Situating flows in the middle of an analysis of migrations requires an operative frame. In that respect, we believe that it is relevant to apply the categories that Held articulated from a transformationalist perspective to migration contexts. Held points out that the *extensiveness*, *intensity*, *velocity*, and *impact* of networks and connections are three dimensions or patterns of transformation (Held et al 1999). As we will see in the last chapter, we propose that further research should be done on the basis of these categories.

3.2. New migration agents

The inclusion of interconnections as a key issue in migration processes implies that actors who shape and help make them possible by reinforcing communication and information flows and networks should be considered as new migration agents. Identification and analysis of these agents will be of crucial interest to us and a way of recognising the existence of an embryonic institutionalisation of migration.

Following this logic, we can list some of the actors involved:

- Technology providers such as mobile phone and transport companies (especially those which target migrant populations).
- Internet café owners and employees.
- Migration webmasters.
- Formal and informal immigration information providers.
- Private profit-motivated intermediaries such as remittances bank intermediaries are new agents of migration in the information society (Graeme Hugo 2004). As Massey has pointed out, new international migration trends experience changes from social networks to the commercialisation of international migration. The use of all the resources the information society provides by private firms could even take the place of traditional social networks (Massey 2004: 7).

3.3. New informational resources for migration

Information has always been a necessary resource in migration processes. Different social groups have different abilities to amass the resources for migrating and successfully entering and integrating in other societies (Held 1999: 285). In the information society, these resources are changing and new agents amass them in different ways and with different results.

At state level, the hierarchy of power among migrants is mirrored by the hierarchy of state power in which different states have differential capacities for controlling population movements, maintaining the integrity of their borders and shaping the structure of international migratory regimes (Held 1999:285).

New agents amass new resources, though. For instance, immigrant associations hosting a website are potential agents in the decision-making process towards emigration. In this case, an immigrant association enjoys credibility and cultural proximity that official institutions may lack.

Taking into account that information runs through technologies, it is also important to remember what Castells says: "Differential timing in access to the power of technology for people, countries, and regions is a critical source of inequality in our society" (1996:33)

Finally, the possibilities of gathering information on the conditions for migrating, as well as on cultural particularities of the host society (language, religion, weather, history, etc) are higher than ever before. International movements of people might be based on increasingly informed decisions, accompanied by the perception that such moves involve decreasing risks and costs. Today, potential migrants are defined – in most cases – by better schooling and wider access to information about destination countries “with messages on standards of living and codes of values which heighten the perception of the supposed advantages of migration” (ECLAC 2002:233). The spreading of information flows in the context of migration defines one of the most important features of current migration: potential migrants take informed decisions.

A new set of questions can be posed: what are the opportunities and constraints to information access? What kind of information is it? Who has the capacity to amass resources for migrating? Is there a new power distribution of migrants in the information society? What resources provide the capacity for migration? And, in this context, what are the new factors in shaping an elite and mass migration? (McNeill 1979) How do information networks work in migration contexts and which new migration information nodes get distributed? Who has access to information networks as key social resources in the distribution of power in migration contexts? What roles do formal versus informal information networks play in migration processes both in reliability and diffusion aspects? Who contributes – and how – to the maintenance of these information networks and with what purpose?

3.4. New approaches on integration

The existence of intense information networks highlights new questions on the meaning of integration that need to be addressed. For instance, to what extent do transnational connection networks now substitute the traditional role of local host societies? Is there a new “comfortable distance” (Riak Akuei 2005) available through expanding telecommunications that immigrants may enjoy?

We should be looking at whether immigrants remain in the same information networks which connect them thanks to enacted information technologies (Castells 1996). Migration would, increasingly, constitute a movement within the same network or, in other words, a displacement without movement.

As a result, more attention should be paid to ICTs as a tool migrants use to generate new communication and information possibilities. We need to find out the role of digital technology in this field, where factors such as age or education can be differentiating factors. The role of ICTs in fostering social cohesion, building shared identities, achieving inter- and intracultural communication, and socialising migrants in the host society’s way of life, as well as the role of migration technologies as generators of new interests and businesses could become their own lines of research from this look at migrations.

4. MIGRATION AND TECHNOLOGIES

We shall start this section with a test. If you type the words “technology” and “migration” into Google, you will find that this combination of key words takes you to Internet engineering services and technologies. However, if you replace “migration” with “immigration”, you will find areas of more interest: border security technologies or biometrics². These are some examples of these findings:

“But across the country a small group of businesses is quietly testing a Department of Homeland Security program that can check immigration status with a few clicks on the Internet. The program is likely to be at the heart of any federal immigration reform, even as critics say it needs improvement.” (<http://www.smh.com.au/news/technology/us-firms-test-webbased-immigration-check/2005/09/08/1125772633033.html>)

“**New immigration technology at Manchester airport.** A new Iris Recognition Immigration System (IRIS) has been employed at Terminal 1, Manchester Airport from today. It will now enable registered passengers to enter the UK without queuing to see an immigration officer at passport control.” (<http://www.redhotcurry.com/news/iris.htm>)

There is also a third area of findings that relates high-tech and highly skilled migrants. Developing countries can not offer highly skilled jobs to their highly skilled workers. Particularly striking is the increase in demand by developed countries for immigrant workers with increasingly specialised skills, such as those connected with engineering and technology in the general field of information processing. In this context, developed countries fill this gap by promoting the emigration of highly skilled workers. This issue has reached the political agenda in countries like the United States, where lobbyists representing Microsoft, Texas Instruments, and Sun Micro systems took their case – a lack of highly skilled workers – to Congress to ask for mechanisms for importing more foreign workers to allow temporary guest workers into the country (Nguyen 1999).

In this section, we identify other lines of interest and future research beyond the results obtained from Google.

New communication technologies are seen ‘new’ because they are always subject to continual redefinition, as successive changes in technology occur. The social and political impact of new technologies is complex and contingent, being subject to a wide range of variations.

Discussions about migrants and new communication technologies have often paid little attention to the current context, especially in Southern Europe (Spain, Portugal, Greece). Theoretical research in this area will help us understand the relationship between immigration and information technologies and see how the dynamics of the use of these tools by the immigrants themselves affects the collective identities of groups and their modes of self-organisation.

² As an example of this interest, one of the thematic priorities of the 7th Research Framework Programme is the development of new technologies for border control. There will be funded research projects aimed at “Intelligence surveillance and border security – technologies, equipment, tools and methods for protecting Europe’s border controls such as land and coastal borders”.
http://cordis.europa.eu/fp7/cooperation/security_en.html

4.1. What use do migrants make of ICTs?

There is a historic link between migration flows and technology. Technology has always played a major role in the history of migration. But in recent years, this relationship has become stronger than ever. Today, migrants need to use technology to travel, keep in contact, send money home, or get information on host and sending societies.

Using Castells' relational approach to technology (1996), it is the interaction between society, history and technology in migration that becomes a key element in understanding the new nature of migration in the information society. Migrants' social reactions to ICTs are still unknown. A social construction approach to technologies (Bijker and Law 1992) would focus on their possible acceptance, adoption, or adaptation as basic units of future analysis. What becomes significant is to construct technology through the eyes of relevant social groups. Migrant groups seem to be relevant as ICT users. In this sense, it would be of interest to check whether information technologies are process-oriented and developed and not simply tools to be applied (Castells 1996).

ICTs are creating new communication and information possibilities for emigrants. The use of ICTs by immigrants constitutes, at the same time, an impassionate and fertile area for reflection. Immigrants are generally considered, rightly or wrongly, as people of a modest social standing. In Europe, they almost always come from poor countries. In theory, it is their social condition which forces them to work hard to escape from poverty and at the same time provide for their needs and those of their family, which gives them little time and means to reach science and local technology. Added to this is the fact that in certain countries with sizeable immigration, such as Italy, France and Spain, immigrants are generally illiterate. It is surprising how often poor and illiterate communities make use of sophisticated communication techniques which Europeans generally only master after school or university.

In the host country, the use of advanced communication technologies by emigrants is not a free choice, but a need. The multiple relationships they maintain with their country of origin oblige them to use the fastest and cheapest means of communications. In order to themselves in the environment of a developed country, migrants have to familiarise themselves with modern communication technologies. They need satellite television to keep up to date with the news in their country of origin, they need to use new methods of instantaneous money-transfer (Western Union, Money Gram, etc), despite the exorbitant costs, to send emergency money to their family in need, they need to use the Internet to find information on jobs or the cheapest plane ticket, etc.

4.2. Use of ICTs in sending countries

It is clear that one learns more quickly when one learns out of need. The training that emigrants receive usually involves a major change once they are in the host country. In a country like Turkey, for example, with a quickly inflation in media -- starting from the end of 1980 and has its own communications satellites like Türksat—and a fast expansion of telematics in the fields of telecommunications, the bank, of the company, at the university, “the migrants, the actors of the emigration (organizations, companies) are today able to reach Internet networks” (Tapia 2004). This situation has contributed to launch the development of the satellite remote transmission (TDS) and the use of Internet networks.

In African sending countries, many people increasingly maintain trade relationships with their relatives or friends established abroad, and they use communication channels which allow real-time information exchange. Therefore, they have mastered the use of websites, webcams and now even Skype. Often, the family members who stayed in the country of origin want to give their emigrant relatives all the details of what is happening in their lives, which is clearly expensive. In several West African countries, Skype enables them to communicate for hours on end at a lower cost. This is the experience of a Senegalese woman whose daughter lives in Ontario (Canada):

“I didn’t have the chance to pursue my education any further, but I managed to learn how to read and write simple sentences. My daughter often sends me money by Western Union and she always calls me to give me the amount, the number and the password. However, the telephone is expensive and the cable line is not always very good. She offered me a computer and helped me connect to Internet with ADSL at my own place at a reasonable cost of 15,000 FCFA per month. Since then, our communications have been fast, and even instantaneous. Later, she told me about Skype... or something like this, I didn’t know what it was, but I will find out. The Internet is a great invention. I spend sometime several hours speaking with my daughter and I am observing that my level of French has improved.”

Here is the experience of another Senegalese woman:

“For more than two years, my parents opposed my marriage to Sané. The reason was that they didn’t know him. Also, they didn’t approve of the fact that I wanted to marry someone I had never met. It is true that Sané saw me on a videocassette of a marriage which his friends had organised in Milan. Afterwards, he got my phone number, contacted me and we learned how to love without actually seeing each other. One of my friends spoke to me about webcams and she taught me how to use it. Sané didn’t know about this system, but I explained it to him. Now we chat to each other with my office computer after the job. My mother agreed to accompany me to an Internet café and also now speaks with my future husband directly online.”

4.3. North and South division

In the receiving countries, ICT facilitates integration or alienation of immigrants. Nowadays, it is necessary to spend some money in expensive and complex equipment³. Indeed, for immigrants, ICTs can be a double-edged sword:

³ See Abdoulaye Wade, President of Senegal, *Le Monde*, 6 March 2003.

sometimes they facilitate immigrants' integration; sometimes they lead to their exclusion, even their alienation. It should not be forgotten that if there is a gap between North and the South in the field of ICTs, this is especially true in the use of these technologies. Nevertheless, knowledge of ICTs is widespread in the case of migrants who frequently travel between North and South.

4.4. Diasporas and virtual communities

To maintain the Diaspora ties, migrants work in new ways of communication which enables them to maintain the contact among them. It is thus quite natural that identity medias are spreading instruments of survival for threatened cultures (Dayan 1997) helping them in the maintenance of the bonds between geographically separated groups. In the district of Château-Rouge in Paris, considered as the 'African Headquarters', Internet cafés and call shops are multiplying. One can speak here of multi-territoriality to indicate the phenomenon by which migrants, starting from their receiving country, find a series of exchanges with their territory of origin around and by means of ICTs. Thanks to these advanced technologies, they are physically abroad but virtually at home.

According to Claire Scopsi (2004a), migrants are enthusiastic consumers of identity media, newspapers and radio. Community satellite televisions, and more recently webpages, have been set up with them in mind. This media:

- Enables them to read in their own language, and thus have easier access to information.
- Enables them to keep up to date with events in both the country of origin and the host country,
- Supports them in the struggle against discrimination.
- Emphasises ethnic successes, in contrast to the stereotypes portrayed in the mainstream press.
- Provides information on regularisation, administrative procedures relating to migrants, job adverts, training information, access to housing, etc.
- Provides a bridge between the two worlds, though adverts from telecom companies, travel agencies, etc.
- Explores the too narrow commercial ways left by the large press as that of the meat hallal, or the Moslem marriages.
- ICTs make it possible for migrants to overcome space constraints, remove distances and constitute virtual communities by affinity.

In a country like Senegal, the formidable WorldSpace system made possible for homesick migrants to easily pick up broadcasting from Senegal and have fresh news from the country. In 2006, the Senegalese media group Wal Fadjri launched its satellite television station. And it is interesting to note that before broadcasting within Senegal, this television was geared towards Europe, and towards emigrants in particular.

In Morocco, the government is fully aware of the importance of money transfers and remittances from emigrants to the country and is keen to maintain solidarity

and emotional ties with them. It has therefore launched an Internet site dedicated to the Moroccan community abroad where suggestions and ideas can be exchanged.

The trade held by African in the big European cities is sometimes the pretext to offer services of telecommunication and of communication (translations and mediation in various languages, top-mantas peddling, etc). These commercial spaces became places of meeting and solidarity for migrants. One can see several trades or activities carried out by Africans in Mediterranean cities (Barcelona, Murcia, Marseille, Alicante, Valencia, etc.).

Inevitably, the needs of regrouping, meeting and solidarity lead migrants to invest in the field of ICTs. The High Committee of the Senegalese Overseas Foundation is no exception. In addition to purchasing online plane tickets for its various meetings, it uses the Internet to convene and prepare its meetings, validate its reports, etc Any other means of communication, such as post, fax or traditional telephony would be a non-starter considering that it has members all over the world. This transnational project of keeping in touch with the Senegalese diaspora could not take place without ICTs.

As the requirement of solidarity needs the use of the ICT for the migrants, ICT are in the service of the diaspora connection. But as ICT can support connection and integration of migrant communities, they become used for the draconian control from abroad. The use of ICT can suppose harmful effects on migrant communities. Indeed, the impossibility to circumvent their character can dehumanize the relationships within the diaspora. With the mobile phone, the SMS are largely spread without respect to the rules of orthography and grammar. With Internet, the correspondent has generally lot of new messages to answer and gives the most laconic possible answers. The 'mandates' for long time always accompanied by emotional messages have appreciably felt down thanks the no-emotional remittances via Western Union or similar services.

It is true, however, that migrants, particularly Africans and Asians, have not completely given up on traditional methods of communication (traditional telephony, postal letters, recording a message on a cassette, etc.), which they combine with the ICTs which are essential for them. Finally, the use of ICTs can be a factor of discrimination. Migrants excluded from the system because of their illiteracy or their poverty are completely disconnected. If they do not have a mobile phone, receiving information from the country of origin – despite the pervading satellites, computers or the Internet in the receiving country – is extremely difficult.

Immigration societies can represent a useful form of self-organisation for groups. This representation comprises an in-out dialectic that focuses either on integration or on alienation, depending on the given context. As Nils Zurawski (1996) has suggested:

“this makes it a vital resource rather than – as is often claimed – an agent of reaction and conformity, because norms and codes can be changed from within the group itself. The norms and codes are embedded in the traditions, laws, customs, arts, and literature of a group. These historical continuities do manage to persist with the appearance of modern

communication technologies; the changes that they admittedly undergo may be seen as new interpretations of certain customs, and so forth, in response to the challenges of the information age”.

Some researchers, like Benedict Anderson (1983) or Tara Brabazon (2001) for example, have advanced respectively the terminologies of ‘Imagined Society’ and ‘Virtual Society’ in order to give a new understanding to the organised groups such as the immigrants or the diverse virtual and social organisations in the receiving countries. According to Tara Brabazon (2001):

“To theorise virtual communities necessitates an understanding of how language and print culture constitute subjectivity. Anthropologists, including Levi-Strauss, too often defined civilisation through the activity of writing. To create a space between the colonised's 'culture' and the coloniser's 'civilisation' exoticises the native for a European audience. Therefore, to assess the imagining of virtual communities, a considered theorisation must be made of how print culture configures the understanding of democracy and citizenship.”

The relationships between immigrants (or other organised minority groups) and communication, in the receiving societies, is obvious. Of a somewhat more complex nature is the information that they exchange throughout the World Wide Web. Several times, the variety of the information is as diverse as in the Internet forums and chats, but of a completely different nature according to the groups and the context of each national receiving country. Information is different, sometime original and it is disseminated rather than discussed, as in the high forums. According to the immigrant groups, the Internet and the new instruments (phone cards, mobiles, etc.) are useful tools supported by the existent virtual marketplace. As Nils Zurawski (1996) said:

“The almost total absence of regulation and control gives way to the reshaping of identities and group (and other) images by these groups themselves. What on the one hand is a chance for self-determination might, on the other hand, lead to distortion and manipulation of information”.

Thanks to their skills and their know-how, migrants contribute to the technology and information transfer of capital and knowledge companies or organisations. They create a human footbridge between the cultures, the virtual world, the economies and the transnational companies. With the help of ICTs, immigrants are trying to overcome marginal positions in the receiving societies in which they are living. That means they are trying to be responsible for their own image and how they want to be seen in both the receiving countries and in the countries of origin. This constitutes without doubt a form of engagement, a social commitment, but also a kind of alienation and resistance.

They examine the social situation and context in depth and suggest innovative strategies to overcome kinds of discrimination. Because they can control the technology, in both form and substance, this could lead to improvements in other aspects of their social life. The control of information may provide them with resources against their often denied autonomy, against their exclusion from social services, and against attempts to prevent their access to ICTs. Identities and the use of new tools (mobile phones, phone cards, etc.) will remain an important factor in negotiating, through the social margins, the effects of globalisation and information technology. It is in this sense that ICTs are sometimes used to

organise international resistance and support social networks. In this manner, information exchange occurs, since the receiving societies are globalised and must be a part of the process of social transformation and social change for the sending countries.

4.5. Trading with ICTs

It is observed that the places where immigrants are settled are always places where they can access easily to the NTIC. Many Africans use Internet cafés run by compatriots, which immediately brings them into contact with their family of origin. In African districts like Barbès or Château-Rouge, in Paris, Internet café managers do good business by meeting the demand for an 'African feeling'. There are shops selling prepaid phone cards linked to other products, Internet cafés and points of sale of mobile phone with or without a contract. Sometimes the communication services are offered exclusively; sometimes they are an ancillary activity linked to an African manufacturing trade or African fruits. Claire Scopsi (2004b) notes that ICTs have led to the proliferation of merchants of prepaid cards, small *téléboutique* owners, collectors and exporters of telecom equipment.

Given the wireless telephony context in a country like Senegal where two giants like SONATEL and SENTEL are in fierce competition, many Senegalese emigrants make use of the export and sale of mobile telephones. Some of them set up workshops for decoding and repairing mobile telephones, particularly in the large cities, such as Dakar and Touba, where many emigrants come from.

The African traders settled in the big immigration centres "savent qu'il est important d'agir vite pour entrer, de plein pied, dans le train de la mondialisation à travers ses supports que sont quelques outils de communication modernes" (Guèye 2001). These traders and businessmen regularly use fax and mobile phones in order to deal with administrative authorities, renew their registration on the commercial register, register a place in trade fairs, monitor annual sales, or regulate retirement issues, but also to deal with their suppliers and customers to do businesses. These means of communication enable them to order goods and sell them on the spot or in their countries of origin – in short to communicate quickly with the market and sometimes at a lower cost. More and more, migrant traders, especially those who have a certain level of education, use Internet to inform themselves about the market, to access a much wider market, to find new outlets, to invest in other commercial initiatives, to forge professional partnerships, and to cooperate with distant customers and suppliers without having to move. Today it is quite impossible to hold a viable trade in a large Western city without using powerful means which allow fast connections with customers and suppliers. African migrant traders export goods to their country of origin (beauty product, clothing, etc) or import products from Africa (exotic foodstuff, handcraft products, etc). This flow of goods is viable only when it is accompanied and framed by a prompt and effective communications system between the various actors concerned (traders, purchasers, chargers, conveyors, intermediaries, etc.).

4.6. Linking-up: the emotional consequences

In addition to the economic aspects, ICTs make it possible to keep up emotional and ethnic relationships despite the distance. Emigrants are no longer isolated or distressed since they are in instantaneous contact with their country of origin via the Internet or satellite television. Emigrants' families can speak with them through Skype or receive money or remittances with practically no delay, unlike in the past. Migrants immediately get mobile phones to succeed financially and keep in contact with the family and, if educated, they use the Internet to communicate for long periods at a lower cost. In the Internet cafés in Dakar and other big African cities, Skype is much favoured by young girls to talk to boyfriends or husbands abroad. In this way, ICTs form part of the emigration-immigration phenomenon; they encourage and cause it, such as when people who have met on the Internet decide to meet in person.

4.7. Types of ICTs used by migrants

a. Money transfers

Migrants' remittances to their families in the country of origin used to be dominated by traditional systems. The money was sent by the postal service (money order, telegraphed, etc.) or given to a third party going to the country of origin. The migrants traders also had systems of money transfer based on networks of confidence. These postal or manual methods were slow and not very reliable (risk of diversion by the conveyor). According to Moda Guèye (2001):

« L'argent est le principal lien entre les commerçants et leur pays d'origine. Parmi toute la diaspora sénégalaise, ce sont les commerçants qui sont les plus dynamiques au niveau des transferts de fonds vers leur pays d'origine. Ils envoient régulièrement de l'argent à la famille restée au pays pour la dépense mensuelle et à l'occasion des cérémonies familiales (baptême, mariage, décès) et pour des cérémonies religieuses (Magal⁴, Gamou⁵, Tabaski, Korité). Certains enregistrent les instructions dans une bande cassette qui sera remise au destinataire ; utilisent les services d'un compatriote faisant office d'écrivain pour relayer les mots d'ordre et transmettre les instructions sur l'usage de l'argent. Dans de telles conditions, certains commerçants circulent parfois avec des sommes colossales avec tout cela comporte comme problème d'insécurité. »

They needed a faster, more reliable and more convenient system, such as Western Union.

Guèye (2001) explains the system used by Western Union very clearly. According to him, this international structure is an old US bank created since 1903 which set up a process of instantaneous money transfer through a worldwide confidential data-processing network. It has opened many offices in Africa and in Senegal, as partners with the Post Office, the Banking Company of West Africa, and the General Company. Business is so good that small offices are being opened in sub-

⁴ An annual religious celebration which draws thousands of worshippers to the Holy City of Touba (in the area of Diourbel in the centre of the country) to celebrate the departure in exile of Sheik Ahmadou Bamba.

⁵ A religious ceremony commemorating the birth of the Prophet of Islam, which draws many faithful disciples to the places of prayer, in particular the town of Tivaoan, headquarters of the Tijaan brotherhood.

districts and villages. To send money via Western Union, you simply produce some ID at one of the agencies, fill in a form giving the name and address of the recipient, the amount sent, a secret question and an answer. The sender receives a sending number which they should tell the recipient, who uses this number, together with their ID and the question and the secret answer to receive their money at another Western Union office. Other similar structures as *Money Gram* are doing deep concurrence with companies like *Western Union*. But services that these companies offer have a cost. Many senders complained about having to pay a fifth or a quarter of the amount sent. This is why, within the migrant community, one observes simultaneous use of the traditional and modern methods of remittances. New technologies are certainly powerful, but they are sometimes certainly expensive.

b. The Internet

Developing countries have arrived late to Internet access. As Nils Zurawski has argued, "Given the global distribution of the Internet and the people that actually have access to it, it becomes quite clear that the chances of self-determination are skewed to a certain extent, especially in third-world countries, where the electronic communication infrastructure is rather underdeveloped" (1999). The challenge of the reduction of the numerical fracture seems to be able to raise by the emigrants who are living in big cities. Indeed, the services related to the ICT are available and, in theory, accessible. Furthermore, African migrants who use the Internet show a considerable ability to adapt, since the computers, associated software and hardware were all designed and produced based on the developed world's principles and the values.

c. Email

Immigrants' need for communication at low prices leads them to the use of email. In places of high immigration, such as Château-Rouge in France, Internet cafés offer access to the Internet to the benefit of immigrants and natives alike. But the use of email is subject to certain conditions: access to a computer or a powerful mobile phone offering Internet access, having an email account, knowing how to use the computer or mobile phone, and being able to read and write in the language used by the computer. These conditions are not always met, since some migrants still remain in conditions of poverty and illiteracy. As a result, in Château-Rouge, phone shops are more popular than Internet cafés. Among Africans living in developed countries, young people who have acquired a certain level of educational, mainly students, use the Internet to communicate initially amongst themselves and then with other young people in the country of origin. The educated migrant traders also invest, gradually, in this channel to communicate with their customers and suppliers. Email is often used to inform a relative or a friend that a remittance has been sent by Western Union or Money Gram. Many ethnic, national or religious movements use the Internet for launching messages or petitions aimed at the diaspora.

d. Information resources

Websites offer information without the need to move or make contact with people or organisations. For example, the Senegalese website www.seneweb.com allows Senegalese migrants to read newspapers published daily in the country and even engage in debates on certain articles. Student communities regularly download articles or files related to their various research tasks. In receiving countries, young people in particular use the Internet to plan trips (US visa lottery, countries offering a quota of visas, etc.). Many files for requesting grants, working abroad, etc. are only accessible by downloading them from the Internet.

Many researchers have pointed out that the Internet contains tools that are being increasingly used by migration players as information sites:

- Migrants themselves: information on the destination countries, emigration conditions, strengthening family and community ties (family, diasporas, communities of ideas, etc.): mobile phones, the Internet.
- Migrant organisations: legal information, refugee files: human rights situation in the countries of origin.
- Governments: information on the legal aspects of migration, control of people and means of detecting illegal migrants: biometric equipment in consulates and airports.
- Unofficial informants: network of *passeurs* (several sites on Internet), underground employment...

e. Solidarity networks

In addition to the TDS- Satellite Remote Transmission – the emigration has amplified the use of Internet networks within the community of the Turkish migrants and between the migrants and their lands of origin (Tapia 2004). In fact, one can observe an increasingly motivation from the migrants for the creation and settlement of virtual associations being presented as networks of solidarity. Sometimes, the official purpose of an organization (assistance to the poor in the countries of origin, political support, etc) is only one pretext to use virtual ties. In this way, it can be stressed the Steering Committee of the Foundation of the Senegalese Emigrants which use a lot the NTIC to avoid remote and expensive displacements. Many associations bring together immigrants and families who remained in the country of origin. This is the case with the Mouvement International pour la Renaissance d'une Afrique Unie (MIRAU), based in France, or Sénégal Meilleur, based in Canada. Many immigrants associations have set up websites which they use as a meeting place or crossroads with the country of origin. This is particularly true of the Senegalese in Italy, who try to maintain an interdependent bond between them, then with Senegal and finally with the city of Touba from which a number of them left.

f. Mobile and prepaid phone cards

As Claire Scopsi (2002) has pointed out, the principle of the prepaid card is simple: you buy a card, scrape to reveal the secret code, and then dial the number of the operator, followed by the secret code, and then the number of the person you want to reach. The price of a 30-minute or one-hour call abroad is lower than with France Télécoms, but varies different according to the destination. The call can be made at home, from a mobile phone, or from a phone box. In 1998, phone cards cost between 100F and 125F and there were approximately four different card companies. In 2001, there were tens of companies on the market, and the price had fallen to 80F. The success of these phone cards is explained by their ease of use: you don't have to speak to an operator to dial the number, so mastery of the language is not required.

Prepaid cards allow migrants, especially those who do not have the resources to access the Internet, to phone at a standard rate. They constitute a means particularly used by the immigrants, for example in a quarter like Château-Rouge where shops are selling these products:

« Certains restaurants de Château-Rouge abrite un discret « commerce » de cartes France Télécom moins chères que les autres, et le quartier regorge de téléphones portables « tombés du camion », aubaines pour la clientèle pas trop regardante sur l'honnêteté de la transaction » (Scopsi 2002)

The accessibility to the mobile telephone is explained in particular by the facilities which the many European communication companies offer to the users with low prices. The mobile telephone is almost offered to the people who subscribe.

Many African migrants get second-hand mobile phones for business purposes in the receiving country or the one of origin. It is undeniable that emigration has played a fundamental part in democratising access to mobile telephony in the major receiving countries.

h. Border control technologies and biometry

Clandestine immigration in Europe has become so widespread that EU Member States can no longer combat it by traditional means. The new option consists of tackling the phenomenon at the border and at the source, in collaboration with the authorities in the sending countries and countries of transit. This is not possible without a powerful information and communication system which can regularly update data. To control migration flows, you need to know when, how and why emigrants enter. To combat clandestine immigration, you need to locate the clandestine immigrants and identify them. However, those the European Union regards as clandestine immigrants belong to various categories:

- People who entered a Member State illegally either without documents, or with false documents
- People who entered with a valid visa or a residence permit, but who exceeded their authorised stay

- People whose stay, although legal at the start, becomes illegal the moment they undertake a remunerated activity;
- People provided with a work and residence permit who remain longer than legally authorised or break the provisions in another manner.

ITCs are now used more than ever in the fight against clandestine immigration.

5. TOWARDS A NEW “LENS” FOR THE STUDY OF MIGRATION

Migration is probably one of the oldest and more ubiquitous ways of interconnection among different and distant parts of the world (Held 1999: 283). Migrations have always constituted a “natural” flow of products, ideas, cultures, and languages. Millions of social, economic and political interconnections have been produced after migration has linked two or more regions in the world. In Held’s terminology, the pattern of global interconnection in the domain of migrations has always been high.

But the recognition of a long past of interconnections, even the affirmation that connection constitutes an intrinsic part of migration, does not alter the fact that the increase and changes in interconnection may be transforming the nature, meanings, and trends of international migration in the Information Age. For instance, immigrants can now keep track of family affairs and political and economic news in their country of origin daily; unlocalised web pages give information on migration conditions; immigrants care for the maintenance of family and business abroad.

We propose to devote more attention to the knowledge and nature of interconnection than we have done up to this moment. We believe that it is one of the most important new trends of migration and, at the same time, one of the most unknown faces of globalisation. It is especially necessary to build an analytical framework of interconnections in migration contexts that would really help us to understand the characteristics and effects of flows on migration. For this purpose, we have identified Held’s (1999) categories on flows as very appropriate: *extensiveness*, *intensity*, *velocity*, and *impact* of flows could be used in further analysis. In fact, Vertovec - one of the most notable authors in the study of transnational migration - has already referred to these categories to define current migration movements (2004b). As a first exercise in the application of these categories to migration contexts we have come across the following evidence:

- *The extensiveness of flows*: The rapid development of technology infrastructures has had an effect on the spread of flows. This extensiveness has shaped a different map of destinations and sending regions and countries, adding new areas throughout the world and, as the UN Population Division (2004) pointed out, making migration a present-day reality that affects every country in the world.

- *The intensity of flows:* Ever since the time when migrants traveled on transatlantic ships, improvements in means of transport have allowed people to move increasingly easily. McNeill (1984) has pointed out that improved means of transport have always been a key factor in the history of migration. We would argue that means of communication and information also play a very important role. From the time when migrants' handwritten letters took months, even years, to cross continents to today's email and mobile phone calls, for instance, the intensity of communication has drawn a new map in migration processes, experiences, and opportunities. The availability and accessibility of ICTs facilitates a huge number of everyday contacts through phone calls, emails and text messages.
- *The velocity of flows:* The following text message was recently circulated within the Latin American community: "Spain will require Bolivians to have a visa from January 2007. Pass it on". A young Ecuadorian who lives in Barcelona explained that he keeps up his relationship with his girlfriend in Ecuador by sending her several text messages a day. Communication and information flows are faster than ever before and reach everywhere. The most evident consequence of high-speed information flows is the reduced delays in time and space. The increasing speed of communication and information flows is a new resource for migrants. Migrant groups, as a social group, require constant information to prepare their migration projects.

We believe that there is a need to understand contemporary international migration as a "space of flows" more than as a "space of places" (Castells 1996). We choose the analysis of flows as a new "lens" for the study of migration. Through these lenses, we will be able to look at migration as part of a general trend in the Information Age: an augmentation of human capacity of information processing and communication, made possible by the revolutions in microelectronics-based information and communication technology such as computers and digital communications. Our focus is precisely on the effects and transformations that such increase produces on migration and, very important, how these flows are shaping new opportunities and new challenges in migration and integration. The increase in interconnections may be producing transformations in some international migration trends such as in the structure and characteristics of migrant flows, in the typology of migrants. Migrating in a "space of flows" supposes a much more *continuous* reality where the meanings of "origin" and "destination" are blurred. Diminescu (2005) has pointed out that the definition of a migrant based on physical criterion and in varying degrees of difficulty, is being challenged. Thus, she proposes to use the concept of "the connected migrant"⁶.

We began this Working Paper with an observation: the result of looking at migration made us think that interconnection is one of the most visible realities of current migration. Or, what is the same, the information society is shaping

⁶ Dana Diminescu is Director of the Programme d'Études sur l'usage des TIC dans les migrations (TIC-Migrations) at the Fondation Maison des Sciences de l'Homme (Paris). We would like to thank her and Sylvie Gangloff for their generosity and help.

contemporary migration. After a more systematic observation, we have come to the following hypothesis:

- In the increase of international communication traffic: communication traffic between countries with strong migration connections may have grown more deeply than countries without this connection.
- In the circularity of people: high communication among migrant communities may modify patterns of departures and returns.
- In the purpose of immigration movement: the possibility of maintaining a high level of interconnection (both communication and capital flows) may accentuate the figure of migrants as looking more towards the origin (money-senders) than the destination.
- In the strength that Internet cafés and call shops are taken in cities and neighbourhoods with high presence of migrants as basically places for communication and, frequently, also, for socialization.
- In the stabilization of immigrants as target for telecommunication and transportation companies.
- In the existence of more mechanisms and agents of information, which may imply changes in the information that migrants have both on origin and destination countries (more informed decisions).

The opportunity and appropriateness of this terrain of analysis is also reaffirmed by the lack of knowledge of the ways in which flows shape the movements of people around the world. On the one hand, immigration policies have not yet considered information and communication flows as part of the agenda.

On the other hand, research on migration has not dealt with information and communication flows in sufficient detail and has taken for granted that the general increase in communications in both volume and velocity in recent decades has also affected migrant groups and regions. The fact that interconnection changes the very nature of international migrations calls for new approaches from within the social sciences. The interest for the analysis of flows is not new in migration research and literature. We have quickly reviewed different approaches that, in one way or another, have considered that interconnections are of great importance and have impact on the way people move. Two basic theoretical frameworks become key references: first, the long tradition of migrant networks – reframed as global networks by Massey. Second, studies on transnational migration. However, none of these approximations to flows have given enough empirical data, nor a deep analysis, on the transformations that the information society and technologies associated to it could imply for migration dynamics and integration perspectives.

One of the major challenges we face in this area is the operationalization of the space of flows in migration contexts. From a research point of view, this is our main purpose. Considering the long history of interconnections in the migration domain, we should be very careful in showing, with empirical data, that there are substantial changes in the way these interconnections are being produced now in relation to the past. Otherwise, we could be building a whole apparatus on the basis of a false reality.

One of the possible ways to overcome this difficulty is taking the use, appropriation, rejection of ICT as a path to analyse the space of flows in migration contexts. We must find a way to understand the coming and going at the core of this new phenomenon through an exploration of the relationship (trans-local, trans-cultural passages, reconfigured spaces, etc.) between the appearance of ICTs and the different migrant experiences⁷.

We need a closer understanding of the nature of ICTs and the social transformations resulting from these innovating elements. Looking at ICTs means not only identifying the type of new technologies used by migrants or their families and friends, but also analysing how they facilitate migrants' integration in receiving societies, their role in the migration process, how migrants learn about technology (by doing, new applications, shaping new networks, etc.), and the diffusion of technology. The spread of migration technologies is a selective process, both socially and functionally. We will be looking at the meanings that ICTs are developing for them.

The spread of technology among migrant communities, both in origin and in destination countries, has become a key area of interest to us. Diffusion of ICT could be considered the material condition of migrant interconnection. Therefore, we should pay attention to the development of technologies in migrant communities, regions, and countries. Through ICTs, migrants become interactive users by learning new social and technological roles. Because of their strong virtual interaction, they acquire social identities through their constant socialisation.

Finally, during the preparation of this Working Paper we have identified some key issues that should be developed in further analysis:

- **Centrality of migrant networks:** The identification of migrant networks as key factor in the dynamics of migration is a significant contribution. In an interconnected society, migrant networks become even a more crucial element in articulating the structural forces of emigration that attract immigrants and the motivations that orientated their decision to emigrate. The potential power of each migrant - more interconnected than ever - as a node of communication and information constitutes a focus of our interest. In this sense, migrants become powerful nodes in a networked society. Thus, the role of migrant networks should be at the core of migration policies and contemporary migration research.
- **Migration information networks:** The evolution and reshaping of information networks are creating a new situation in migration processes. Understanding how information networks in the migration process work constitutes one of the main challenges in the study of contemporary

⁷ In most of the exploratory interviews carried out amongst immigrant men and women in Catalonia (Spain) we have observed that the area of technologies is an easy topic of conversations – and one that is well received - amongst immigrants. On the other hand, direct questions on how they manage information and, especially, how information becomes action (decision to depart or to unite family members) seem to be details that many migrants are not willing to share with us, even for research purposes. As a result, we have decided to design research questions to migrants on the basis of ICTs as an open door to address other “more difficult” matters.

migration. Today, migrants are clearly connected to different information networks. Being in contact with an information network is a vital prerequisite to migration. On the basis of the social and economic structures that arise to connect areas of outward and inward migration, we could analyse the kinds of networks that exist and the agents related to the migration process acting as producers of key information. In the information society, information is a resource for migration that some agents (groups, individuals, institutions) amass as a new distribution of power.

- **Professionalisation of migrant connections:** Taking these considerations into account, we could consider that better transport communications and the ‘socialisation’ of new information and communication technologies contribute to the professionalisation, commercialisation, and consolidation of migrant networks. A whole new business created around transportation, cybercafés, remittances, and ICT sales promote the constant growth of interconnections. In fact, international agreements to lowering costs of all kinds of international communication and transportation help in the development of these business areas. However, the promotion of this new business area - which implies liberalisation and facilities for the development of communications and capital - contradict restrictive and disconnected politics of migration. When it is the *state* that undertakes both directions, we are envisioning an area of deep contradiction in globalisation.
- **Migrant project and integration:** The analysis of migration as part of the growth and expansion of flows would provide a new perspective on migrant integration. The current interconnection-capacity based environment may be shaping migratory projects that look more towards the origin than the destination, which clearly influences the orientation of integration processes. To understand how these trends interact and cohabit with social needs and requirements in host societies is one of our main challenges.
- **Migrants as ICT users:** It is important to construct technology through the eyes of the appropriate social groups. Migrant groups seem to be relevant as ICT users. By looking at how ICTs are constructed, accepted, adopted or adapted in migration contexts, we are putting forward a new “lens” for analysing migration in the information society.

Efforts should be focused on the design of a methodological instrument capable of addressing the main questions identified in this Working Paper. The complexity of contemporary migration and its relation to the Information Society requires an accurate combination of all the resources available to develop research.

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