

Boundaries in a Space of Flows

The Case of Migrant Researchers’ Use of ICTs

Key Deliverable
**The European Media and Technology in
Everyday Life Network, 2000-2003**

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EMTEL - General preface

The European Media Technology and Everyday Life Network (EMTEL) was funded by the European Commission (grant number HPRN ET 2000 00063) under the 5th Framework Programme. It was constituted as a research and training network within the programme, Improving Knowledge Potential and oriented towards “creating a user friendly information society”.

EMTEL conducted interdisciplinary social scientific research and training between 2000 and 2003. This report is one of 12 submitted to the EU in September 2003 as final deliverables for the project. Copies are available on www.lse.ac.uk/collections/EMTEL and a full list of the publications can be found as an Appendix to this report. Contributing partners were as follows:

- ASCoR, The University of Amsterdam
- COMTEC, Dublin City University
- IPTS, Seville
- LENTIC, The University of Liège
- Media@lse, London School of Economics (co-ordinating centre)
- NTNU, University of Trondheim
- SMIT, Free University of Brussels
- TNO, Delft
- SINTEF, Trondheim.

EMTEL sought to bring together young and experienced researchers in a shared project to investigate the so-called information society from the perspective of everyday life. It undertook research under two broad headings: inclusion and exclusion, and living and working in the information society. It then sought to integrate empirical work and developing theory in such a way as to engage constructively with on-going policy debates on the present and future of information and communication technologies in Europe.

Roger Silverstone

EMTEL Co-ordinator

Centre Director's Preface

This report is the main outcome of Dr Thomas Berker's work with us as a post-doctoral fellow, funded by the EMTEL project. It addresses the way migrant researchers use ICTs related to their work and leisure, not the least related to the way they keep in touch with their home country, family, friends and significant others. The topic was chosen because there are few who have looked at the situation of migrant researchers, but also because we believed it would allow Dr Berker to address some general and very pertinent issues linked to our understanding of the future use of ICT in everyday life settings. The latter idea was based on the assumption that migrant researchers would represent a group of particularly skilled and motivated users. Thus, they could to be considered potentially as a group that would use ICT in a quite intense way and in this way allow us to assess the preconditions and consequences of such intensive use.

I believe Dr Berker has succeeded, both in providing an interesting and lively account of the situation of migrant researchers and in using his findings to evaluate the limitations of intensive use of ICT in everyday life more generally. Clearly, even to such a motivated and skilled group, it was important to limit ICT use. This may serve as an antidote to some of the current hype, where the future is seen as a life of constant connected-ness.

We have been very happy to host Dr. Berker as a post-doctoral fellow and feel privileged to have able to follow this interesting project and its many connections to other EMTEL work as well as many local projects.

Knut H. Sørensen

DISC/NTNU

Acknowledgements

This report covering the findings of research *on* migrant researchers is written *by* a migrant researcher. The interviewees agree that their migration, which takes place under rather privileged circumstances, is a challenging and rewarding experience. Above all, they stress that it as an extraordinarily instructive experience to work as researcher abroad. This report, which is based on research funded by the EU 5th Framework programme, is the first material outcome of my own 'educational trip' to Norway.

I would like to thank my colleagues of the EMTEL project, above all Knut Sørensen and Anne-Jorunn Berg, who were my hosts and teachers in Trondheim. The warm and productive atmosphere at the two hosting institutions NTNU/ITK and SINTEF/IFIM in Trondheim has contributed a lot not only to my research but also to my general well being abroad. Finally, yet importantly I want to express my gratitude for the friendly support of the interviewees, who made every interview an interesting and pleasant experience.

Thomas Berker, June 2003

Executive Summary

The study detailed in this report was conducted as part of the EMTEL II network work on “living and working in the Information Society”. The general aim of EMTEL is the exploration of how ICTs are embedded in everyday routines and practices. One way to frame expected changes in this domain is through an understanding of processes of time and space distancing and compression. Within this frame, new ICTs are interpreted as the latest instance of technologies that since the beginnings of modernity increasingly enable the detachment of social interaction from corporeal co-presence. The space of time-space compression/distancing is social space, which implies a temporal aspect. Similarly to Hägerstrand's time-space diagrams, it is a space of distances and proximities between humans, but also of co-presence or absence, enclosure or disclosure. Within this perspective, place is defined as “meeting place”. Although place is often imagined as locale of corporeal co-presence, a study trying to explore fundamental changes in daily routines to do with “meeting places” - be they online or offline - cannot presuppose that the restricted understanding of 'meeting' as face-to-face encounter is still applicable. In terms of time-space compression/distancing this is rephrased as a question of how spaces and places are (re) organised in daily lives of users of new ICTs. Which difference does it make to routinely 'meet' people globally on a daily basis? Does it make any difference at all?

In order to answer these questions the everyday life of a professional group was explored. They group can be characterised not only as “heavy users” of electronic networks but also as socially networked on a global scale: *Migrant researchers* are among Europe's most “wired” and at the same time most mobile individuals. As such, we can expect them to be living under conditions of extreme time-space compression/distancing. An exploration of their daily routines encompassing their technically mediated and non-mediated communication as well as work and leisure activities and social context provides insights in social implications of new ICTs that are to do with new patterns of the organisation of social space(s). The exploration of the role of new ICTs in time-space distancing/compression carried out here focuses on two pairs of specific “meeting places”: the local versus the global and the home versus the work place.

The findings are based on 20 in depth interviews carried out in Trondheim, Norway (12 interviews) and Darmstadt, Germany (eight interviews) between October 2001 and

January 2002. These interviews reveal a broad variety of practices and routines, which point to a far-reaching *detrterritorialisation* changing temporal and spatial structures of daily life:

- Households are distributed transnationally,
- interpretations of national and regional differences are transcending the dualistic pattern of homeland and hosting society,
- the transnational language English is the pragmatic choice in work and non-work,
- social networks consist of other foreigners, present or remote,
- the establishment and fostering of transnational networks clearly is accepted as prominent task,
- a broad variety of media is used routinely on a daily basis to sustain transnational networks, and finally
- the institutional context of work allows far reaching freedom in terms of time, space and content of work.

However, none of these observations is only about disappearing boundaries. Barriers remain, which I propose to call *residual boundaries*. They are left after many other boundaries were removed. So, if we for instance study flexible work under the condition of missing extrinsic restrictions, we notice that intrinsic restrictions like the need for co-ordination of different schedules in meetings, deadlines, or material rhythms in experiments still can exert quite a lot of structuring power. Furthermore, we can observe that in some cases the structure of agendas of other institutions, (for example, the kindergarten's schedule) takes over. Residual boundaries appear as intrinsic restrictions, they are imposed by other institutions, they are dependent on characteristics of the specific location, and are evoked by the migrants themselves in rational considerations of efficiency and problem definitions.

Particularly when we explore cases, in which many of these residual boundaries are lacking, the result is not necessarily a greater degree of detrterritorialisation. On the contrary, routines and deliberate efforts to create *secondary boundaries* are the result. For instance local specificities that support detrterritorialisation both on the macro (global-local) and micro

(home-work) level, like cheap Internet access at home sponsored by the employer, are countered by manifold self-imposed spatial and temporal restrictions regarding media use. Particularly the home, though it is not the only place, in most instances rules out certain kinds of media use. “Home-making” as special case of place making typically involves the deliberate configuration of media use. Moreover, certain types of social relations are excluded from technically mediated communication, at least normatively. A recurring topic within the interviews is the discontent and psychological stress following from physical distance from family and close friends.

Workload is a key to the understanding of benign and malign impacts of flexible work and nearly universal accessibility through ICTs. Under the condition of a high workload, for example if someone is involved in several projects (that is, collaborations with the need for meetings), necessities imposed by residual boundaries can become major forces structuring the whole life of the worker. An important strategy to achieve control is place making, which always involves restriction of media use. Again it is most often the home, which is fortified as stronghold, but other places - as in one instance the laboratory - can function as protected places as well. In these cases other institutions, material circumstances and actors do not support the individual’s efforts of an “artificial” creation of boundaries. Which amount of work is sufficient is weakly defined in flexible research work. The individual’s “attitudes towards work”. (For example, “The results of my work become better, when I have enough quality time outside work”) are the only resources the individual can draw on and thus become important. They are then the only boundaries against a high workload.

Migrant researchers, like many other groups in contemporary societies, are exposed to increasing spatial and temporal flexibility, indeed. The struggle to re-establish control over one's life is fought at the barricades of residual and secondary boundaries. However, the locale of these fights is the everyday life, the unspectacular domain of repetition and routine. The point made here is that the story of deterritorialisation and re-territorialisation has not necessarily to be told assuming an ubiquitous space of flow that is violently disrupted by patriarchalism, fundamentalism, (counter-) revolutions, and other new forms of identity (Castells). The focus on the unspectacular routines of everyday life reveals how

transnational migrants silently learn to deal with new spatial and temporal flexibilities applying all different kinds of tools. We are witnessing a new round of time-space distancing, which is enabled by ICTs - among other (social) technologies, like for instance modern air travel. The close examination of the daily lives of individuals inhabiting the resulting “networks of flows and obstacles” (Negri/Hardt) neither gives cause to assume that a fundamental historical shift is taking place, nor justifies the assumption that everything remains the same. Many of the topics emerging from this study's interviews are well-known themes of social science: the home, the family, the working conditions, to mention only a few. However, within an everyday life that is adapted to the forces of increased de- and re-territorialisation the meaning changes. Some aspects become less important, some gain importance. The home is more than ever the threatened sanctuary of the individual, the family becomes the only domain, which is normatively excluded from technically mediated communication, whenever this is possible (and often it is not), and the workload determines the professional well-being of the worker on an unprecedented scale.

1. Introduction

“I only need two hours of people a day.

I can get by on that amount.

Two hours of FaceTime.”

Douglas Coupland, *Microserfs*

Dan, one of the characters in Douglas Coupland's novel “*Microserfs*”, is pondering about how much “FaceTime” he has and how much he really needs. The neologism “FaceTime” describes time spent in face-to-face encounters. The rest of the time Dan is writing and reading email, calling other people and spending his time in front of his computer screen writing code for the Microsoft Corporation. As Dan sees it, he is not “having a life”. How much “FaceTime” does a human being really need? There is of course no simple answer and the question may even be misleading if it is understood as asking for universal anthropological laws. However, with the advent of new Information and Communication Technologies (ICTs) additional ways of social encounters not requiring corporeal co-presence became available. Nowadays, there is widespread mobile telephony, long-distance calls have become affordable, emails take eight seconds to bridge the distance between Europe and Australia at virtually no cost, discussion boards are globally accessible, and so forth. In short: new ICTs without doubt enables access to distant people and information cheaper and faster than ever. And these potentials are actually realised, as a large and still growing number of individuals are using these new services on a daily basis.

Taking into account the all-pervasive nature of technically mediated communication in modern societies it is reasonable to assume far-reaching social implications, when new communication and information devices are introduced and adopted on a broad scale. Simple assumptions about these “impacts” range from traits of the technology in question to its consequences. However, the social study of communication technologies suggests that the situation is much more complicated: acts of mediated communication are always already embedded in multifaceted social interactions of everyday life. Furthermore, in everyday life actions are manifested in routines, which structure (inter) action and are structured by it. Finally, it cannot be ignored that these are material technologies, devices and infrastructures,

which impose restrictions and enable the actions of the individual. Thus there is actually a complex relation between technically mediated and non-mediated communication, the routines of everyday life, and the material technology, which is at stake when trying to figure out what the social implications of new ICTs may be.

One fundamental conceptualisation of some of these implications introduces processes of time and space distancing (Giddens 1984) and compression (Harvey 1989). Here new ICTs are interpreted as the latest in a broad range of technologies that since the beginnings of modernity increasingly enable the detachment of social interaction from corporeal co-presence. Both Giddens and Harvey argue that these developments of new social relations transgressing the boundaries of localities are the key to the understanding of modern (in the case of Harvey also, post-modern) societies in general.

This time-space compression/distancing is social space, which implies a temporal element. Similar to Hägerstrand's time-space diagrams (Hägerstrand 1967); there are also distances and proximities between humans, as well as co-presence or absence, enclosure or disclosure (Giddens 1984). Allied to such an understanding, place was defined as “meeting place” (Massey 1999). Although place is often imagined as a locale of corporeal co-presence, a study trying to explore fundamental changes in daily routines associated with “meeting places” – be they online or offline – cannot presuppose that the restricted understanding of 'meeting' as face-to-face encounter is still applicable. However, the notion that it still makes sense to distinguish between face-to-face encounters and their technically mediated counterparts, is one of the points of departure of this study. It is the same idea that creeps behind the question of how much of “FaceTime” actually is necessary, when there are so many effective possibilities to avoid physical co-presence. In terms of time-space compression/distancing this can be rephrased to the questions:

- How are spaces and places (re) organised in daily lives of users of new ICTs?
- Which difference does it make to routinely 'meet' people that live far away?
- Does it make any difference at all?

In order to answer these questions in this study the everyday life of a professional group was explored, a group that can be characterised not only as “heavy users” of electronic networks but also as socially networked on a global scale. Migrant researchers are among Europe's most “wired” and at the same time most mobile individuals. They could therefore be expected to live under conditions of extreme time-space compression/distanciation. An exploration of their daily routines encompassing their technically mediated and non-mediated communication as well as work and leisure activities and social context should provide insights in social implications of new ICTs that are to do with new degrees of spatial and temporal flexibility.

The exploration of the role of new ICTs in time-space distanciation/compression, as presented in this report, focuses on two pairs of specific “meeting places”: the local versus the global and the home versus the work place. The next section discusses these pairings in more detail (1.1 and 1.2). Thereafter, migrant researchers are introduced as “transnational migrants” living under extreme time-space distanciation (section 2). After methodological considerations (section 3), findings are presented (sections 4 and 5). Concluding remarks wind up this report.

1. Spaces and Times of Everyday Life

Conceptualisations about the role of ICTs within the spaces and times of everyday life date back to the early 1970s. Two of these discussions stand out particularly. First, there is an assumption that the relation between the global and the local will be affected. Second, on the micro level, it was claimed that the domains of work and time would become related in new ways. In this section, the interest for boundaries and their changes is identified as common theme of these two otherwise separated discussions.

1.1 The space of flows and the power of identity

Manuel Castells' 1,435 pages on “the network society”, “the power of identity”, and “the end of the millennium” (1996; 1997a; 1997b) are held together by the assumption of a conflict between, what he terms, the “Self” and the “Net”, that there are “conflicting trends of globalisation and identity” (Castells 1997b, 1). Globalisation in Castells' account occurs in

the form of “the network form of organisation”. Here networked managers live in hotels and airports that look the same wherever they are located, whereas identity is about “cultural singularity” and “control over live and local environment”. Between these two poles, Castells maintains, the most important forces are at work shaping recent past, present and future. As a result of the conflict between both poles new forms of identity become more influential replacing older ones:

“When networks dissolve time and space, people anchor themselves in places, and recall their historic memory. When the patriarchal sustainment of personality breaks down, people affirm the transcendent value of family and community as God's will” (Castells 1997b, p.66).

These movements are reactive in two senses. First, they react on inclusion into global networks by referring to elements, which are incompatible to the global networks because of their unique identity. Second, they react on exclusion as well:

“When the Net switches off the Self, the Self individual or collective, constructs its meaning without global, instrumental reference: the process of disconnection becomes reciprocal, after the refusal of the excluded after the one-sided logic of structural domination and social exclusion (Castells 1996, p.25).”

Thus, on the one hand resistance is always already transformed by and within the hegemonic networked form of organisation. One of Castells' examples for this kind of resistance are Mexican Zapatistas using modern means of communication to organise *world-wide* solidarity for their *local* struggle for the right of indigenous people. On the other hand, there is resistance in the form of a revival of phenomena, which are destroyed by global networks: for instance the patriarchal family, or meaningful places and time. Though the local remains fundamentally grounded in the temporal and spatial singularity of co-presence, it is affected if not transformed by the global uniformity of the space of flows.

Castells' position can be challenged from both sides of the polarity he constructs. First, some authors blame him for an overestimation of what he calls the “space of flows”. Trond Arne Undheim (2000), for instance, locates Castells within the camp of postmodernists, “cybertarians”, “virtualists” and theorists of “visionary globalisation”:

“Castells is among the 'extremists' in the space/place discussion. To him,

materiality itself has largely lost meaning. And the most significant attempts to conceptualize ICT in terms of sociology are found among theorists, like Castells, that is the epitomes of the sociology of globalisation. These theorists, policy makers, and visionaries share the notion that social space has become ubiquitous (Undheim 2000, p.13)."

Against this "strong programme" of globalisation Undheim, referring to his empirical findings, shows how place matters even in nomadic practices of knowledge work. He suggests a "sociology of place making" when people "actively participate in the configuration of the places they inhabit and the spaces they touch" (Undheim 2000, p.33). But Castells was also criticised from the other end of the polarity: his model of reactive local identity. Antonio Negri and Michael Hardt (2000), explicitly naming Castells, seek distance from "a large portion of critical thought", which is searching resistance against global capitalism in the "localisation of struggles" (Negri and Hardt 2000, p.43).

"What needs to be addressed, instead, is precisely the production of locality, that is, the social machines that create and recreate the identities and differences that are understood as the local. The differences of locality are neither pre-existing nor natural but rather effects of a regime of production (Negri and Hardt 2000, p.45)."

According to them, the same applies for globality:

"Globality similarly should not be understood in terms of cultural, political, or economic homogenisation. Globalisation, like localisation, should be understood instead as a regime of the production of identity and difference, or really of homogenisation and heterogenization (Negri and Hardt 2000, p.45)."

Thus, according to Negri and Hardt there are two modes of production of identity, distinguishable, but in fact unified in the same process:

"The better framework, then, to designate the distinction between the global and the local might refer to different networks of flows and obstacles in which the local moment or perspective gives priority to the reterritorializing barriers or boundaries and the global moment privileges the mobility of deterritorializing flows (2000, p.45)."

To sum up, then, Castells is well aware that "the Self" is co-produced by "the Net".

However, in his account this co-production is present as relation of conflict. Communities and local movements try to escape global networks and are shaped by them at the same time in these very processes of resistance. But they remain distinct entities. Negri and Hardt put this one step further. No matter how hard they may struggle, there is no way out(side); quite the opposite: these struggles of localisation constitute the overarching social organisation as well as globalising forces do. However, a translation of Undheim's "place making" into Negri/Hardt's "re-territorialisation" enables the two critiques to complement each other. They lead to a perspective on physical co-presence and mediated communication, which above all is interested in the exploration of practices of the creation of boundaries and their defeat, their transgression and defence, their weakening and reinforcement.

1.2 Redefining the boundaries of home and work

Much as the opposing local-global, the poles home and work are prominent concepts of the organisation of space and time in everyday life. Consequently, ICTs are expected to be involved in major changes. At the beginning of the 1970s, in reaction to the first oil-shock, Jack Nilles conducted a study on what he and his co-authors call "the telecommunications-transportation trade-off" (Nilles et al. 1976). This sounds a lot like time-space distancing, and it certainly presupposes that physical co-presence is not needed any longer for collaboration and social interaction. However, Nilles' point of departure is not of theoretical but pragmatic nature. He lists the costs of the dissociation of the spaces and times of work and home (pollution induced by commuting, waste of oil, waste of time) and compares them with options opened by the broad introduction of new computer based forms of communication, which in the 1970s still would cause considerable expense. The outcome is a recommendation in favour of electronic networks supporting telework.

During the 1980s new arguments against the Fordist split between work and home were presented to complement Nilles' calculus. That is, the manager expects more productivity, the male bread winner is attracted by avoiding the chores of commuting and the option to participate in family life, and the housewife is promised to be able to earn some extra money without neglecting her "actual" tasks of family and household.

Numerous telework experiments were conducted during the 1980s most of which, with only

a few exceptions, were complete failures (Crossan and Burton 1993, 351). In a typical telework experiment, the teleworker first has to be provided with the necessary equipment. From the 1980s ICTs – already extensively used in work-related environments, began to penetrate the homes. Nowadays, an average home PC is capable of printing, faxing, connecting to the Internet, copying, storing and processing data to a degree that is equal to its professional equivalents. Standard applications (for example, Microsoft Office) have conquered the work place, replacing custom made software systems and providing virtually the same software environment at home and at work. So, silently behind the backs of telework experiments organised by the management, the technical foundations for a new kind of telework have been laid.

Furthermore, in many companies non-technical developments have taken place and which challenge the rigid split between home and work. Arlie Hochschild (1997) shows how during the 1990s the “home became work and work became home”. She observes instruments of human resource management, which seek to make the staff to members of a new kind of domestic community:

“In deciding what kind of culture to create, the company looked outside itself for models. As airplane engineers borrow design from birds or mall designers borrow style from nineteenth-century village squares, so the company borrowed culture from family and community (Hochschild 1997, p.19).”

In line with these observations, recent literature on the relation of work and home has stressed the importance of the management of boundaries between work and non-work. Feminist research in particular provides rich theoretical and empirical material. From a perspective in which home and work are not seen as “naturally” detached, an ongoing “blurring of boundaries” becomes visible (Hardill et al. 1996). However, this does not have to be the conclusion of studies concerned with changes in the way boundaries are managed. Several authors show how boundaries are not only blurred, but how they are re-established and reinforced in order to protect spaces formerly considered free of work against the expansion of work from the work place into the domestic sphere (Mirchandani 1998).

This leads to an augmented approach of “boundary work”, which is defined by Christena Nippert-Eng as: “strategies, principles, and practices we use to create, maintain, and modify

cultural categories “ (Nippert-Eng 1996, p.7). In her study, Nippert-Eng distinguishes two basic types of worker, the segmentor and the integrator. The former is steadily trying to segment home and work through various practises involving his/her social environment as well as a whole world of artefacts, whereas the latter more or less virtuously integrates the two domains, continuously shifting back and forth. Seen from Nippert-Eng's perspective, a clear-cut split between times and spaces of work and home becomes a special case.

The focus on the management of boundaries represents a common theme of the two different strands of literature presented here. According to them processes of de- and re-territorialisation are both expected to take place between the local (identity) and the global (space of flows) and between the domains of work and home. Extreme time-space distanciation and compression can be expected to alter the relation between both pairs of places. Thus, it is reasonable to assume that new forms of boundary management accompany these.

2. Time-Space Distanciation and Everyday Life

To explore daily life under extreme time-space compression means to study groups, which are both highly mobile and active in technically mediated communication. The question then is where to find these people

2.1 Transnational migration of the ‘highly skilled’

In Castells' account, the most important conflict is less one of local or global practices but of the subjects engaged in these practices. Global spatial flexibility is the exclusive domain and mark of elites:

“In short: elites are cosmopolitan, people are local. The space of power and wealth is projected throughout the world, while people's life and experience is rooted in places, in their culture, in their history (Castells 1996, p.415-6).”

This definition of actors within local or global spaces can be rephrased as position that exclusively assumes that there is “transnationalism from above” as opposed to a notion of “transnationalism from below” (Smith and Guarnizo 1998b).

The appreciation of the impact of ICTs, modern air travel and efforts of sending country governments to promote transnational activities (Portes et al. 2001, p.4) leads to a new approach to migration in which links and networks of migrants become the main topic of research. Those networks are called *transnational* as they transcend nations: they are 'above' nations and not 'between' them; in Martin Albrow's words: "Trans-' then differs from 'inter-' as much as leaping across a boundary fence from passing through a border checkpoint" (Albrow 1998).

Migrants, though in earlier times linked to their homeland as well, nowadays have different means at their disposal (Vertovec 2002, p.4). The outcome according to some authors is the creation of "transnational fields". In Alejandro Portes' words they are characterised by

"... dense networks across political borders created by immigrants in their quest for economic advancement and social recognition. Through these networks, an increasing number of people are able to live dual lives. Participants are often bilingual, move easily between different cultures, frequently maintain homes in two countries, and pursue economic and cultural interests that require their presence in both (Portes 1997, p. 812)."

Such an understanding of transnationalist practices has been appraised critically (Smith and Guarnizo 1998a, p.12) on the same grounds as the objections voiced against Castells' space of flows, that is, the tendency to present a misleading description of migrants switching too easily between cultures underestimating the "power of local identity". There is far-reaching agreement, however, that the so-called "highly skilled" migration represents an instance of migration with a relative high degree of transnational practices.

Three times the flow of those "experts" and "professionals" crossing country borders became problematic, which prompted three different strands of research. First, starting in the mid-1960s, the term "brain-drain" was created in order to denote the migration of experts above all from the UK to the US. The term later came to be used mainly to describe the flow of experts from "south" to "north". Finally, during the 1980s classical immigration countries like the US, Australia, and Canada increasingly adopted policies, which emphasise "quality" of skills or expertise on the part of prospective immigrants. This was also when European

countries first introduced measures to attract non-European students (Findlay 1995). During the 1990s, more general, skill shortages and the selection of migrants according to eligible skills become an important issue in European immigration policies (Mahroum 1999).

Still, little is known about this kind of population movement. Findlay's term "invisible migration" (Findlay 1995) addresses the fact that public awareness of "highly skilled" migration is overshadowed by the migration of other groups. Moreover, defined more in a relatively limited way as migration excluding short term stays of less than one year, the proportion of migrants that fall within this category remains so small as to be statistically invisible (Salt and Ford 1993). Finally, "highly skilled migrants" are poorly defined as a group since this category includes a wide range of professions and social groups reaching from top-level managers to students (Koser and Salt 1997). This again is a problem of statistical nature, but it also causes difficulties for any kind of description and analysis of this "group".

What is known about "highly skilled migration" distinguishes it from other kinds of migration. It is increasingly short-termed involving commuter assignments, no or only limited settlement, and business travels (Findlay 1995; Koser and Salt 1997). This is not the least a consequence of the speed and density of modern air travel. Overall numbers are believed to grow as national and regional economies become more and more interwoven (Findlay 1995). Therefore, it mainly takes place between the core countries of the global economy and does not follow other "migration channels" (Findlay 1990) with the exception of students (Kritz and Caces 1992). These moves may also be privileged in legal and financial terms, rather short-termed and often circular. Overall, then, this kind of population movement in fact can be expected to carry transnational traits as they were described above.

Migration of the "highly skilled" usually does not take place between countries that are part of what was called "migration systems" (Zlotnik 1992). Thus, to understand this kind of migration it requires a shift in research focus from the migration of experts to the international transfer of knowledge and expertise (Koser and Salt 1997) was suggested. The exploration by Beaverstock and Bostock's (2000) of expatriate communities in Singapore represents first steps into this direction. They encountered networks of expatriates both *in*

situ and reaching out globally. These networks are the strategic aim of the assignment abroad and are played out in daily practice and private life in pubs, clubs and dinner parties.

Besides the “stars of globalisation” - top-level managers of internationally operating banks and companies - another group is often overseen when it comes to the discussion about globalisation and transnational practices: scholars and researchers. They act in dense networks that not only, like in the case of bankers and accountants, link global cities, but virtually every region, which hosts a university or research institution.

2.2 Scholars’ use of ICTs

From the outset, sociology of science recognised the crucial role of these transnational networks in the academic production of knowledge. These early analyses of, for instance co-authorship in scholarly journals or “citation networks” show how “invisible colleges” (Crane 1972; de Solla Price 1963), cross the boundaries of institutions and sometimes even disciplines. Nowadays, nobody would question that modern science in fact is a transnational affair. This involves, for example, that scholars gather at conferences all around the world, not in the first place representing their national science, which would render these meetings according to the definition introduced above *international*, but as members of institutions and disciplines. They exchange ideas via internationally accessible publications of all sorts. Furthermore, it became integral part of almost any career in academia to spend at least a limited period of time abroad.

Given the transnational orientation of science, it is not surprising that in the 1970s scholars were the first users of the Internet and its predecessors. When it finally attracted the attention of a broader public from 1993 onwards users with high levels of formal education were by far over-represented (see for instance the archive of the GvU-Survey, www.gvu.org). This still is, yet to a much lesser degree, true today. The main services provided by the Internet originally were developed as tools for scholars to use remote computing facilities (telnet), a little later also to co-ordinate these dispersed experiments or just to stay in touch (email, chat), and finally in the late 1980s to link and access heterogeneous material (WWW). Universities and research institutions provided their members with email addresses and access to the WWW very early. Therefore, this group is

the one with the highest portion of “Internet veterans” in its ranks.

The obvious link between scholarly activities in inter- and transnational networks and ICTs has been explored more thoroughly in a couple of studies since the early 1990s. John Gresham’s text on “computer conferencing and the transformation of informal scholarly communication networks” (1994) comprises many *leitmotifs* of the literature thereafter. Computer conferences, that is, easily and universally accessible computer supported communication between remote scholars are assumed to: (i) to *enlarge* informal academic networks geographically (ii) to *increase* the speed of scholarly communication (iii) to *challenge* the “old boys networks”.

Especially the latter conjecture appears repeatedly as the hope that these technically enabled ways to get in touch without being dependent on funding for travel will help to include geographically, culturally or socially marginalised scholars. Van Alstyne and Brynolfsson (1996) assess those new networks of the future critically. Under the headline “Cyberbalkanisation”, they describe a scenario in which communication between co-present scientists from different fields diminishes being replaced by mono-disciplinary channels.

Empirical examination of the use of ICTs in teaching and research resulted in a more differentiated view. First, several studies show that authors like Gresham are right to focus on *communication* as having the most far-reaching consequences within academia. Roberta Lamb and Elizabeth Davidson (2002) show in a recent study that the WWW use of oceanographers only marginally and in rather restricted areas affects the ways of presenting oneself in the academic community or to a broader public. Furthermore, they maintain that publishing is still a paper affair, above all due to strong institutional pressures. This is in line with Rob Kling and Geoffrey McKim’s (1999) insight that the publication of a document not only affords a global accessibility, but also the achievement of publicity and trustworthiness. A nation wide quantitative study of Australian scholars showed that library delivery services and databases is hardly used (Applebee et al. 1998).

Thus, among the services provided by electronic networks it is not computer conferencing in a narrower sense, which provides the glue for “the virtual college”, here Gresham is mistaken, neither it is in the first place the WWW and databases. As probably every

researcher will know from his/her own experience, email is reported to be the most important addition to the other communication channels existing in an academic context. In a quantitative user survey John Walsh and his colleagues (Walsh 1998; Walsh et al. 1999) observe clear impacts of email use, like increasing scientific contact, better access to information, and a positive association with scientific collaboration and productivity (measured as number of publications). Despite this general importance, there are significant differences between scientific disciplines (Matzat 2001). John Walsh and Todd Bayama (1996) suggest that the respective work organisation, technological imperatives of the field, size of research communities, and closeness to commercial markets yields these variations in adoption and frequency of use of email and other services.

As early as 1997 the technology at scientific work places was widely at place. The authors of an Australian survey note that hardly any sharing of access and physical equipment was going on (Applebee et al. 1998). Access is strongly related to adoption of the technology, yet it has only weak relation to the frequency of use, which is stronger dependent on the perceived ease of use and the individual's experience. This was the finding of a study conducted at six small universities and colleges in the southeast of the United States (Abels et al. 1996). Thus, the assumption of an enlargement of invisible colleges as result of mere access is questionable. This is in accord with findings from a qualitative study comparing a local and a transnational academic online-network (Koku et al. 2001), that is, distance still matters. The authors found that the more dispersed a network relies even heavier on face-to-face interaction. Moreover, they observed that those who work closer to each other make more use of email. Since email provides access, but not necessarily a reason to communicate with each other, also peripheral nodes of the network did not experience a higher degree of inclusion. The study shows not only that frequent email communication is accompanied by frequent face-to-face encounters, but also the authors experienced that the use of any other means of communication is positively correlated with the rate of email use. Thus, the users studied maintain social relations choosing a broad range of means of communication including face-to-face encounters. Uwe Matzat (2001), studying the scientific use of mailing lists and newsgroups, concluded that success or failure of electronic networks is highly dependent on their embeddedness into social networks in a broader meaning.

For the purposes of this study, above all two consequences from the findings presented in this short overview are important. First, ICTs in fact play an important role within science and research; particularly aspects to do with email communication deserve a close examination. Second, the embeddedness of online communication into social networks forces us to include other ways to communicate into the focus of this study.

This study explores the everyday life of individuals, which are highly dependent on ICTs and other forms of technically mediated communication, and which at the same time are mobile, flexible and transnationally networked. This assumes that within the group of migrant researchers traditional boundaries between home and work and the local and the global blur and are re-established canalising and impeding flows of objects, humans and information. Furthermore, the presumption is that ICTs play a crucial role here. These assumptions place this research in line with a large portion of thought within theories of globalisation, new organisation of work, and transnationalism.

3. Methodology

3.1. ICTs in everyday life

Following exemplary empirical studies within Science and Technology Studies (STS) and Cultural Studies, a couple of otherwise quite common conjectures about the object of research should be avoided. This regards three basic distinctions that usually are taken for granted.

First, if the boundary between work and home is the focus of research, its existence and location cannot be the point of departure. Studies about the use of ICTs at the work place or at home are in danger of presuming a division that might not be applicable at all. During the course of this study the main instrument, the thematic interview guide, had to be adjusted because it still assumed in some cases too clear a line between home and work (see below). The whole of everyday life comprises work and non-work. Therefore, usual restrictions like the exclusive study of “ICTs at home” or “ICTs at the workplace” are not applicable.

Second, if re- and de-territorialising practices and their mutual relation are explored, then every kind of social relation has to be taken into account. The isolation of mediated communication and its careful examination – let alone the sole interest in one of these communication technologies – would miss the point of the mutual impact, different forms of communication have on each other. This is in line with a “people focused” instead of “media focused” approach presented by Anderson and Tracey (2001).

Third, inspired by the “agnosticism” of actor-network theory (Latour 1993 [1991]) an a priori division between technology and non-technology has to be avoided. That and how technologies are shaped and embedded in social practices has been demonstrated in numerous contributions from Cultural Studies and STS. However, the existence and whereabouts of the boundaries between socio-cultural “interpretations of technology” (Bijker et al. 1987) and its materiality as technology is still disputed. Actor-network theory draws the most radical conclusion in declaring this boundary as non-existent, treating objects, institutions and humans as equals. One has not to subscribe to this “principle of symmetry” between human and non-human actors in order to harvest its virtues for an exploration of technologies in everyday life. The openness gained by the adaptation of this kind of agnosticism as point of departure enables the careful systematic search for the meaning of boundaries between the social and the technological in everyday life.

The explorative character of this study should be clear after these introductory words. The aim is not the test of hypotheses and certainly not to present representative findings. Blurred boundaries, fuzzy categories, open-ended variables are the horror of quantitative methodology. Where if not here can the employment of qualitative methods can foster new insights?

3.2 Research design

The findings are based on 20 in-depth interviews carried out in Trondheim, Norway (12 interviews) and Darmstadt, Germany (eight interviews) between October 2001 and January 2002. The longest one (Bart) took approximately 130 minutes, the shortest (Leo) 75 minutes.

In terms of methodology, one central aspect of this study was the proximity of researcher and research objects. This study is part of the European Media and Technology in Everyday Life research and training network (EMTEL II), which is one of the numerous efforts undertaken by the bodies of the European Union to encourage mobility among its citizens. Young migrant researchers were recruited in seven centres across Europe. Thus, the seven young researchers gathered in this network would have been suitable interviewees in the study presented here. The researcher, in choosing migrant researchers as the object of research, met interviewees as their peer, which engendered a “collegial” and relaxed atmosphere during the interviews. The participants tried without exception to be as collaborative as possible, which was a consequence of the wish to help “one of their kind”, a motivation, which was in some cases expressed explicitly. Easy access was of course one important advantage of the decision to conduct research in a “transnational field” familiar to me.

However, the familiarity with the research object ran the risk of creating an atmosphere of tacit agreement about certain aspects of daily life. Grant McCracken (1988, 22) advises the interviewer to “manufacture distance” because otherwise an “invisible hand” might direct inquiry foreclosing certain observations and results. However, distance as well as proximity can be treacherous as long as they stay “invisible” forces. In this study, awareness of the influences of “invisible hands” was achieved by the repeated exercise self-reflexivity. The practices of the researcher's everyday life, as they were confronted with the data, inevitably became part of an active examination.

It is likely that many of the readers of this report at some stage of their (scientific) career have been migrant researchers themselves. They are explicitly encouraged to take part in the exercise of self-reflexivity, which was constitutive in the development of this study.

Participants in Trondheim were recruited in three ways (i) An email was sent to all participants of the language summer school 2001 (resulting in six interviews). (ii) The personnel department of a large Norwegian research institution forwarded a request to every non-Norwegian employee (4 interviews). (iii) Snowballing resulted in two more interviews. In Germany snowballing (3 cases), personal contact through the respective dean's office (3

cases, see above) and an email to an email list where ERASMUS students are subscribed (two cases) were used to recruit participants.

The interviewees were selected according to the following criteria: They should work in research or study abroad for no less than three months at the moment of the interview with a planned stay of no less than one year altogether. Despite these “soft” criteria, the resulting group of participants was relatively homogeneous, at least in some respects. Even though there are 13 nationalities present, most of them are European ones (Eastern Europe: 7 cases; Western Europe: 6 cases). The youngest participants (24 and older) are students in their final years (4 interviews). The largest group consists of PhD students (8 interviews). The rest is working as professor (1 case), as post-doctoral researcher (1 case) or as so-called senior researchers mostly in permanent positions (6 cases). The latter group contains also the oldest participants (42 years and younger).

As for the research disciplines the participants are working in, there was a moderate bias towards geologists (5 cases). Absent from the selection were participants from the humanities and social sciences. This has one major reason: The two field sites Trondheim and Darmstadt are technological hubs in their respective country with a large technical university and several important research institutions. Thus, both cities have traits of what Castells exploring the “New Industrial Space” (1996, p.386-93) calls “milieus of innovation”. They attract researchers from all over the world and constitute nodes that are rooted in their specific locality within global flows of individuals, goods and information. Both universities have a good reputation although it certainly is not comparable with truly global hubs like for instance elite institutions like “Ox-bridge” or the MIT. Consequently, the reputation of the site is in only one untypical case mentioned as reason to choose the location (Darmstadt).

In these respects, both sites are similar, but there are also major differences. Above all the geographical location marks a difference. Whereas this is a reason to come to Darmstadt, it can be a reason to leave Trondheim. Thus, geography matters in an almost surprising traditional sense – the distance to the homeland, hours of daylight, or the average yearly temperature are considered carefully. However, the geographical location is the only

constant and most obvious difference mentioned in the interviews with respect to the choice of country and city. In most of the cases individual and job-related arguments dominate.

The main instrument used to structure the interviews was a thematic interview guide. It consisted of two overarching sections. One is designed to establish a detailed inventory of daily activities in special consideration of media usage. The second one more specifically explores knowledge creation and transfer. The first version of the guide employed in October 2001 had the following structure: After basic questions regarding background information like age, income, etc, it is asked for work-related activities in general and with respect to media usage in specific. Then the same is enquired for non-work. A short section about the social network of the interviewee and one about knowledge creation and knowledge transfer completes the guide.

Later, the guide was modified with as knowledge of the topics expanded. One particular change is worthwhile mentioning. In some interviews, the a priori division between work-related and non-work-related activities did not work in the expected way. In Christena Nippert-Eng's (1996) terminology this was the case with those who integrate of work and non-work, which means that the interview guide that divides in work and non-work simply will create artefacts instead of helping to explore the participant's everyday life.

The interviews, if possible, were conducted in the office of the respondent, which provided additional observational data recorded right after the interview. They were also conducted in an unobtrusive way, even if this meant the complete neglect of some of the interview guide's sections. Thus, the exploration of the individuals own problem definition was given priority. However, as the field of interviewees is rather homogeneous for instance in terms of education, age and profession, this led in no case to a complete deviation from topics raised in this study.

The author of this report carried out the preparation and analysis of the data. Thus, through the steps of the interview itself, the transcription, the repeated steps of writing summaries, and finally the write up, the researcher achieved intimate and comprehensive knowledge of the material. However, particularly in this study burdened by the possible biases of missing distance, more extensive discussions in a research team would have been desirable. Three

interviews have been deliberately downplayed in their significance for this report. In two cases, this was because of unavoidable problems at the interview site affecting the recording quality. In one case it turned out to be too difficult to render the interview anonymous, even though the usual procedures, above all the replacement of names (of institutions or persons), were applied. Though these three cases hardly appear in this report, the interviews are nevertheless part of the analysis.

4. De-territorialisation

As already argued, both the literature on transnational migration and on academic uses of ICTs suggest that the group of migrant researchers is living a transnational everyday life enabled by ICTs. The first group of empirical findings gathered in this chapter is result of the exploration of these transnational practices and their relation to ICTs. The literature would suggest that it would be likely to find those practices in networks of friends, acquaintances, colleagues that transcend local environments, which are dissolved or at least transformed by transnational ones. Thus, this project was looking for the space where local entities - the local workplace, the home, local encounters, local specificity - meet entities from other locales or those that have no determinable geographical origins.

The observations presented in the next section provide evidence for the actual importance of these encounters. Migrant researchers discuss those issues extensively even if they are not asked for (.1). How the interviewees assess their position in transnational scholarly networks is discussed in the subsequent section (.2), followed by an in depth exploration of the means used to become and remain member of those networks (.3). Finally, local conditions at work are discussed (.4).

4.1. Transnational everyday life

In an interview, which is open for topics brought up by the interviewee, additional information can be gathered, which is not part of the interview guide. If certain topics come up repeatedly or even systematically, then this is a finding itself. Three topics of this kind

influenced the presentation of findings. They were present in every interview, although they are not explicitly part of the interview guide. Firstly, migrant researchers consider their relation to family and friends and acquaintances as problematic. Secondly, cultural differences between different countries and cultures are addressed frequently. Finally, migrant researchers unanimously complain about difficulties to get to know locals. A look at the families and households of the interviewees, indicates that the high proportion of “non-traditional” configurations attracts attention. Eight of the 20 participants did not live together with their partner. This group living with long-distance relationships was as big as the group of cases with partners living in the same household. This frequent absence of the partner or of the family in a broader sense was mentioned as one of the main problems in many interviews.

Two options were presented as remedial measures. The migrant could join his/her partner (return option), or the partner can join him/her (“chain migration”). Joan, a 35 years old American geologist who had already lived for eight years in Trondheim, was considering the former option. She was considering either a move back to the US, where her mother and sister are living, or to France, where she could live with her partner:

J: I didn't plan to be here for eight years. I thought it would be one or two and eight years later I am still here.... So, there would be something either job or partnership or family would not be in the place where I am. So I haven't immediate plans to move, but if at some stage an interesting would come up in some other place ...

T: ... in France or the United States ...

J: ... or in the United States, probably those two, I probably would not choose a fourth country ... I might go to one of those other places, but I'm not actively searching.

She also mentioned that her mother is getting older and that this could be a major reason to leave Trondheim.

Others like the Lithuanian food chemist Lea who is seven years younger and at the beginning of her stay in Trondheim tried to persuade their partner to follow them. She had already stayed in Trondheim for a few months during her studies, but at the time of the

interview realised that now she is living a “different kind of life” in which she needs him:

“And now he is coming! Because I found that I need my friends here. It is quite difficult when I should stay three years here. Yes, it's very difficult, because before it was only for five months. It was so nice. I was an ordinary student. It was interesting. And now I'm not a student any more. It is a different kind of life.”

Following the partner is at least one of many reasons to migrate. In fact, four of the eight interviewees living together had partners who had followed them either Germany or Norway. Lea's case shows, in contrast to what the literature says about other occupational groups, that it is not necessarily the wife who follows her husband. This assumes the predominance of the husband to do the first move (Salt and Ford 1993; Snaith 1990; Tzeng 1995).

The remaining two interviewees not living alone met their partner after the migration, but again the cases were different. In one case (Mia), the partner is Norwegian; in the other case (Grete), he is Danish like the migrant herself.

A closer look at the group of long-distance relationships sheds light on even more heterogeneity. There were as many instances where the migrant researcher had left his/her partner behind, as there were cases of the partner living in a third country. Some met first in this third country, some in the home country, some in the host country. There is even a case where the partners met in a fourth country, when both were on holidays. This special case can be called “maximally dispersed”, whereas two other interviewees, Marc and Maria, represented the “minimal dispersion” case. Marc, who applied for work in Trondheim, had made it part of the deal that his wife would get work at the same institution. Moreover, there was a kindergarten close to the institution, where both children (two and four years old) spend the day. Thus, the whole family was gathered under one roof. Although, according to Marc, “the children are in their world and we are in ours”, he saw this as one of the reasons to come to Norway. He said: “... we can really benefit from being in a family and benefit from the children and they can benefit from us.”

As one can see there is almost every possible combination present within this small group of respondents and almost no case is alike. The brief overview above gives a first impression

of the heterogeneity in household forms. Heterogeneity apart, it is evident from Borjas that “[i]mmigration is a family affair” (Borjas 1990, p. 177) also applies to the special group examined here. Transnational networks made up by family members in this group, like in many cases described in the literature, are a reason for migration and they act as facilitators.

It is a popular pastime among migrants to cite differences between their own way of life and common customs and behaviour around them. This is part of what Robin Cohen calls a special “sensitivity” of migrants to “spot 'what is missing' in the societies they visit or in which they settle” (Cohen 1997, p.170). These differences were important topic in almost every interview. It is notable that the comparison was seldom based on a simple dual scheme, comparing homeland and hosting society. A closer look reveals more complex underlying patterns of comparison.

Grete, a 33-year old Danish geologist, who has lived in Trondheim for seven years, still noticed the difference in cultural time patterns:

“G: I have lunch with the people that have lunch late. ... There is a tendency for the foreigners sitting together. ... I think because we have in Denmark and in England and in other countries we have lunch later than Norwegians do, they come at eleven and I come at twelve or 12.30. The foreigners they call it the foreigners table. But it's not that we sit at physically the same table, but there is sometimes just by coincidence there is only four of us, so we stick a bit together.

T: So, seven years didn't change a bit?

G: Yes, it has been different. I tried hard in times where I tried to go earlier and see different people. I don't favour this sitting together. I tried really an effort to go earlier.”

This story is about the persistence of time-related habits. But it is also about comparison. When Grete compares “Danish, English and other countries” with Norway she revealed a multinational scope, transcending the simple dual pattern.

Another mode of comparison, which does not follow the dualistic pattern, is to do with language. Language of course is an important issue for every migrating researcher. S/he is

dependent on this tool, in professional as well as in personal life. Workwise it is above all English that is required. In daily life, it might rather be the local language. A look at the relation between these two languages (English and the local language) shows the difference between Norway and Germany. More foreigners coming to Germany will know German from school than is the case with Norwegian. Furthermore, the general standard of English as second language is higher in Norway, which means that a foreigner in Norway does not as necessarily have to learn the local language.

A typical attitude towards the relation between English and the local language is summarised by Joan, who is fluent in both languages, since she is an American who has lived in Trondheim for eight years:

“And in my – the group projects that I lead at the start we had quite a number of new foreigners in the group and they understood absolutely nothing. So, it was silly to conduct meetings in Norwegian. But in the last six months or so most of them have picked up enough Norwegian that we conduct the majority of the meetings and people follow along. So, I feel that is important to do and fair enough, because we are in Norway and it's their language and not mine. So, I am trying to do that when the circumstances are appropriate. As you probably know as well the Norwegian people and Scandinavians in general speak English so well that often when there is a number of people who don't speak so well it goes over to English just because it gets the job done.”

Using English in Norway is considered the pragmatic choice (“it gets the job done”). The will to achieve a command of the local language, however, is following normative considerations (“fair enough”).

In Germany, this relationship between English and the local language is different. In some cases it even became an exclusive choice to become sufficient in only one of these two languages. During the interview after a first try in English Iran, a 24 year- old Russian PhD student in economical sciences, who is living in Darmstadt, preferred to switch to German. After one and a half years in Germany she explains:

“Before I spoke German my English has been better and actually it was quite good, approximately like my German is now. But since I started to learn German I am

still understanding like before, but talking: it's only German words I remember.”

A complaint raised in every interview centred on dialects. If a person learns German, they theoretically attain the ability to communicate with some 100 Mio people in their mother tongue. If a person learns Norwegian, they might become so fluent as to achieve a basic command of Danish and Swedish as well. In this respect the term “local language” for German and Norwegian, which was also used here, is misleading. It is the dialects that are local languages. As such in Germany and Norway, they are the actual counterparts of English as global language. Migrant researchers encounter them as obstacles even after years of their stay.

Again, it is not a *dualistic* model of own language and the language of the hosting country, which is framing the everyday life of migrant researchers. Instead English as an international language competes with the local languages and these appear in a plurality of localised variants of dialects. Still, the adoption of the local language sometimes even in its dialectal form, does take place. This happens mainly in later on in stay as part of settling in. However, within the group studied here during the first couple of years the choice of English is dominant, which mainly is due to pragmatic considerations. It is the working language within the global scientific community.

Moreover, it is a language present in other domains of everyday life, because of the social networks in situ. It is basically a mix of other migrants those interviewed were spending time with. These were either other migrant colleagues or acquaintances met at language courses or other locales where primarily migrants can be found. Migrant researchers as well as students often live at student residences or similar facilities during the first months of their stay. There they establish first social contacts.

Cultural differences – marginal as they might seem – reinforce this tendency of foreigners to cling together. The “foreigners' table” in the story recounted by Grete is one example for this. However, there are some qualifications to make. The interviewees were aware that they had hardly any contact with locals, yet some provided explanations, which were not restricted to the dualism foreigner versus local resident. Marc, for instance, introduces the family context:

“So, our friends here are mixed couples being non-Norwegian–Norwegian. ... Yes, it is very restricted to foreigners there is no doubt. Because it is very difficult for the first reason to get out for the reason that Norwegians are very family oriented and it's extremely difficult to get into a family. The Norwegians, we know, have their family in Oslo, so they don't have really a family context here, so we meet more with them and because the children are together at school, so that is actually very difficult to get to know.”

Joan, living alone in Trondheim raised a similar point but from another angle:

“... a lot of my socialising occurs with people from [work]. And a lot of them are foreigners and a number of them are like me single with no children. And so sometimes it is simpler as a group to socialise in the evenings just as a natural process as a lot of folks with small kids can't always come out and so forth.”

Later she also said that the Norwegians she knows most likely were not born in Trondheim. So, rather like language where dialects were introduced as truly local languages, it turns out that there is actually a third layer as well. That is, locals with whom foreign researchers have contact are less likely “true locals” in the sense that they have not been mobile themselves, not even within the national frame.

Finally, there is another variable, which intervenes heavily here: the level of education. Foreign researchers meet people with higher educational levels. This applies both to foreigners and locals. The spaces where foreigners meet in the beginning are often bounded by this criterion. Separate language courses are offered for students and graduates on the one side and for the rest on the other. Other aspects more to do with life style, for instance cultural events are important here too. While one type of migrant is welcomed in student residences, the other type lives in container camps for asylum seekers. One kind of migrant might not speak the local language and is nevertheless able to accomplish his/her well-paid job at the university; the other is lucky if s/he does get a “sweat-job”, no matter whether s/he does know the local language or not.

The network of international social relations is also not restricted to persons in situ. Half of the group interviewed here was not migrating for the first time. A common pattern was for them to have stayed before in the country where they were living at the time of the

interview. Two stayed in another country before they ended up in the country where they were interviewed are the most mobile cases in this sample. In two of these three cases, it is a one-year stay in the US, which adds to one move before. The network of social contacts clearly becomes diversified spatially through these repeated migratory movements. Most of the participants have contacts to people all over the world. It is not only people they got to know during their stays in another country, but also migrating members of the family, and very often colleagues from their former or present studies or acquaintances from international conferences and research collaborations.

To sum up the observations of this section it would appear that the life of migrating researchers in most of the cases studied here is situated in a complex setting in which people, routines, and institutions from multiple nations and places are involved on a daily basis.

This regards the closest relationships - partners, family, closest friends - as well as chance acquaintances, and routine actions like time patterns. It constitutes a frame of interpretation of differences between countries, which is not only international in the dualistic sense of comprising homeland and hosting society, but also multidimensional. Migrating researchers do not live in a supra-local dimension. However, if the following is taken into account:

- their lack of local acquaintances,
- their multidimensional frame of reference,
- their often dispersed household structure,
- their problems with dialects and their preference for the global working language English,

then migrant researchers are indeed what Castells calls “projected throughout the world”.

4.2 Linking sites

The importance of international scientific networks for migrant researchers has already been mentioned. But there were also a broad variety of everyday life activities described by the interviewees and these had to do with the establishment and fostering of professional links. Jurij, a 39-year-old Russian biologist, working in Darmstadt, reported differences between science in former communist countries and in the “West”. He cited, as an example, a fundamental difference in the way knowledge is produced and disseminated. He claimed that in Russia it used to be common practice to publish only after as much knowledge as

possible had been established about the phenomenon in question:

“In Russia if we have A and B and if we want to find out about the relation between A and B and we find that there is C, in Russia we would first do research about C before we publish about A and B.”

Thus, he observes that in the west work is published at a much earlier stage. He continued: “They [American researchers] say: 'We care about C later; let's publish what we have!'” Asked which kind of science he would prefer, he favours the Western way. But he has no real choice after all, because:

“... it is difficult to work in Russia now. There is no money, generally no money for anything, for equipment, for salary, for literature. It's a difficult time. And there is no access to modern literature or it's quite limited. And if you want to keep pace with modern science, you must have to have some kind of collaboration. So, this is the main. The second one is in former time it was more or less easy to get some lets say foreign money in Russia, when all this Perestroika, Gorbachev and all these things. But now it's like everywhere: nobody wants to pay you when you are in Russia - there are some foundations but it's mostly connected with some environmental issues like saving some hopeless species of tigers or birds or things like this or nature protection. This generally works nicely in Russia, and this is very important, but this is no science.”

At the time of the interview, he was “keeping pace with modern science” and to achieve that he had established links to Germany.

Irina, a Russian economist, stressed that there are differences between scientific training in Russia and Germany: according to her impressions, the latter emphasises more independent work, whereas Russian students get more direction. These differences are perceived as challenge. It is again an exercise in “keeping pace with modern science”. However, Irina was not establishing links in the way Jurij was, instead she was using existing ones. This formed an important part of her explanation as to why she chose Germany. She said: “Russia has quite a lot contacts with Germany, in the scientific domain perhaps more than to the United States.

Another type of job related network was established by Bart, a 38-year-old Dutch geologist,

who had been working in Trondheim for six years. He was doing research on a special kind of deterioration of concrete, which so far had been catching only marginal scholarly attention. He explained this through the particular quality of concrete being different depending on local geological formations. To establish research on this phenomenon, the same kind of measurement has to be applied in different countries. His goal, as a pioneer in this field, was to replicate work in Norway what he had already done in the Netherlands. Eventually, by adding more and more data from increasingly different settings he hoped to establish a general theory.

There is something special about Dutch concrete, which makes it very easy to do his kind of research there: it is particularly simple in its geological composition. That Norway should be the next base for his efforts to build a research discipline was not due to specifics of Norwegian concrete. Instead he stressed the ideal work conditions, which enable him to work as a “well paid PhD student”, as he calls it, and give him freedom to work without restrictions. It takes material resources to establish a new research discipline. In an almost perfect example for the hypotheses of Science and Technology Studies (STS), he was seeking to establish not only a new discipline but also a new scientific fact. To include as many elements as possible into his network he found a good starting point in Norway. He was a member of two national Dutch societies for “aggregate material”, and at the time of interview he was co-establishing a Norwegian counterpart. As founding member, he was to have more power in this new body than he had in the Dutch one. This “power” was also boosted, in his view, by a bigger reputation for his work in the Netherlands once he was re-imported as foreign expert. Bart was building a network. Norway as a specific place appears replaceable. Still, it is not, because only here he has found the needed resources.

For most of the migrants interviewed here, research was about establishing links or their usage. A range of different motivations to do so were suggested, for example, keeping pace with modern (that is, Western) science or establishing a new scientific fact. Marc summarised another reason, which perhaps is one of the most important:

“You need connections, you must go to meetings, you must maintain connections. It is extremely important to have a network, extremely important. That is the only way you get a job, basically, unless you are extremely good. You get post docs, no

problem, you get listing research, I've had that for ten years. Until I came here it was always two years, three years, one-year contracts, five years was the last one. So that is very easy, but to get a permanent job, where you can develop your research on your own and a research group is much more tricky and there you need network.”

These links can be established in different ways. Marc mentioned meetings, but the multinational everyday life described here certainly provides good opportunities as well. This multi-nationality enables multilateral linkage to take place.

The cases presented in this section represent two variants of this multilateral orientation: Bart's activities were not necessarily bound to the locale Trondheim and the country Norway, but he strategically included Norway into his network. In Jurij's efforts, Germany is replaceable in that it is one of the countries of “the West”. A link to Germany then equals to a link to “modern science”.

The need to build and entertain networks was accepted by all interviewees. This is performed in various ways depending on characteristics of the researcher, his country of origin and his hosting country. In both cases, it is certain characteristics of the locale, which are important. However, these localities are subjected to the imperative “get internationally connected!”.

4.3 Linkage through media

How is this international linkage achieved? First, there is mobility that was mentioned in the previous section. Another kind of tools used extensively is media of all kinds. Only three kinds of media were used by every participant: email, WWW and the telephone. Email was the only kind of communication device identified as being particularly important by all of them. Every migrant researcher at least work-wise had access to the Internet, which to a large extent is unrestricted in terms of cost, reach, time, and in technical terms. The latter means for instance that they are allowed to install whatever software they consider necessary and useful. The technical equipment especially in Norway is unanimously praised. In

Germany, in one instance a complain was made about missing space on the hard disk (Irina). Multimedia features like speakers are not common and in three cases, the interviewee said that s/he planned to apply for this kind of equipment. The fact that some of the participants were sharing an office with one or more colleagues does not seem to imply any restrictions of use either. Every researcher had one computer at his/her exclusive disposal. Exchange students had at least access to a student account at a public terminal room.

Other media encountered at the work place was standard office equipment like access to a fax machine and a telephone. Telephones were often in one way or another restricted, be it through technical exclusion of dialling international country codes, or indirectly through more or less rigid monitoring of outgoing calls. Less common were stereo systems or radios, which then were owned by the employee. Listening to music, given the availability of loudspeakers, is also possible using the PC. Web radio is used regularly in five cases.

As for the home, Internet access was less common and the picture is much more heterogeneous. In some cases self-imposed restrictions were used, but others almost never go off-line. This study found TV sets in almost every household and in five cases, a VCR is present. The TV was as common as one telephone line, but the mobile telephone was used on a daily basis in only one case. Reading books for relaxation was mentioned in almost every interview, but was often considered as happening “too seldom”. A last kind of media, which was mentioned by the interviewees is magazines and newspapers.

The employer largely covered costs related to Internet usage, but extensive expenses caused by media usage exclusively were incurred with international telephone calls. This was alleviated by the use of private telephone companies, which offer international calls at rates that sometimes even undercut local rates.

The overall use and also usefulness of computers was dependent on the respective field of research. But independent from disciplinary boundaries the collection of secondary data and literature research was seen as increasingly computer-dependent. Here the Internet was important as well. It could be considered as the standard software, which enables migrant researchers to establish a familiar workspace wherever they work. The computer supported collection of secondary and sometimes also, primary data mainly takes place over the

WWW, but it is completed by the use of other services - some of them are part of the Internet, some of them are not. The former can be divided in two groups. First, it is a set of local services, which have an interface to the physical provision with literature. It is the local libraries, which are using WWW-interfaces to their collections, links to other databases and access to online journals.

The second group comprises a set of services offered by a variety of actors. The respective American professional associations were mentioned in two cases as main providers of subject specific information like abstracts of new articles and the like. Large depositories for online journals offer subscriptions to services like automatic notification when a new issue is published. This kind of 'machine-generated' traffic was reported in many cases as the kind of email the researchers receive.. Researchers, who were doing research connected to companies, describe as another source of information websites or support bulletin board systems of these companies.

All these kinds of online research for literature are embedded in offline activities. One of the interviewees, Sabine, explicitly addressed this:

"Here I'm around mostly with two other students from my home university, and then we are discussing things and then maybe one read an article and said: 'Hey Sabine take a look at that thing and it's quite interesting maybe for you as well!' and that makes things easier than to keep the paper. And sometimes you find more stuff if you go to this link by yourself ... and it's quite ok. It makes things much easier and you can get much more wide-eyed view for that things. You are not stuck to one opinion, so if you want you can get more opinions on that. You don't have to agree with them but it's always interesting to compare them."

Accordingly, she called her ideal source of knowledge a "combination of all".. The majority of the interviewees shared the conviction that a diversification of sources including both online and offline sources was benign. However, a one-sided trust in online media can also be directed against "the new, flashy media", as Bart complained:

"There is so much that is very valuable to read and people are in my opinion too much concentrating on the new flashy media, on the Internet. It makes sound and noise and a lot of flashy pictures. But actually what does it say? And I have found

several times very, very, very valuable work, which nobody ever found. Nobody knows how”.

He stressed that especially older articles and books were underrepresented in online catalogues. In the same vein, but more pragmatically was Marc's argument:

“The library is a very good tool, you just go there and you say you want this and they order it. They are very well organised. If you try and do the same thing via the Web it will take you days.”

The Internet, thus, was an indispensable tool for the collection of information of any kind. However, it was critically assessed and no researcher would mainly rely on them. Only then, when it seemed more useful than any other means was it used. In cases when this tool is considered as being inefficient, it was rejected. This applied to another way of search for information, the so-called “surfing”. As Joan, representing the majority, expressed it: “And I don't surf the Web at all. The Internet is a tool that I use to find something out.”

There were, however, four exceptions among the most active users. Ares, one of the four respondents that reported surfing as part of their usage described it as:

“... very interesting that you can branch your searching for X and you get Y and Y is sometimes more interesting than X. So, you get just that one. It's fascinating, you just send out and you are just bombarded with information.”

But even he appraised it rather critically:

“... you can easily sit there and just get through it without accomplishing something just six hours. Just go in <snaps his fingers> an eyewink. I think, that also could happen that you don't really get, or that you cannot really educate yourself. You are only wasting your time, so you should be careful.”

This opposition between the need to “really educate yourself” and “wasting time” was used in an almost identical fashion by Marc, the second of the four that mentioned surfing as part of their usage:

M: I'm reading books, less than I should.

T: Why 'you should', who wants you to read books?

M: No, it's, it's, ah, when you read things you learn things. You have other ideas

and educate yourself, even if it is science fiction or so it stimulates your imagination. So you should be reading. Little science books, ok, I had Harry Potter, I don't know if that qualifies. No, I read six books a year at least and we are talking about 400-page-books. When I read I read a lot of comic strips. I read actually every evening before I go to bed. I read only five minutes to 20 minutes. So, newspapers, books, whatever, I have sometimes scientific papers, rarely. <laughs> That is really exceptional, no, no. No, I don't read as much as I really wanted to.

The third interviewee – Jurij – reported that he ”surfed” to relax “when he is not concentrated” but described it bluntly as “silly”:

“From time to time you are not in the right mood to work and then you will just go in and you visit all this silly sites and start to read some information and you are always ending with pornography or such things, which just goes in and you can't avoid.”.

Finally, the fourth “surfer” – Irina – stressed rather the time consuming quality, when she mentioned that she was sometimes “clicking around”.

It is remarkable that three of the four “surfers” mentioned a similar kind of TV usage: switching through channels. Jurij and Irina had no TV, because this would take up too much of their time. A quote of Jurij echoed his quote about the WWW:

I enjoy in Germany when I have an access to the TV from time to time It's always that I'm looking at something like Eurosport, some Sumo-competition. It is very nice <laughs> but not very important.

So, he not only ended up at “silly Web sites” but also at silly TV shows. Similarly, Irina did not use the TV-card that was built into her laptop computer, because of her general difficulties concentrating on her job: “When you start having TV everything is over, I guess.”

Marc, finally, tried to explain his TV switching behaviour in a way that would apply to surfing as well:

M: That's the way I would proceed, yes. I zoom around and switch in. I simply change when I want, a terrible zapper, but I'm and it takes seconds for me to decide I want this and want this.

T: And your wife is she...?

M: Oh, she is much more persistent, she would more choose something and then watch it and I don't. The attention span is probably much less, much more restricted.

Surfing and switching are related phenomena (Berker 2000). As “just letting go”, it is in sharp contradiction to the goal oriented usage patterns encountered in the larger group of interviewees. Even users that reported this kind of usage assess it critically.

Almost every respondent cited a broad range of topics in which the WWW as research tool is involved. Manuel probably represented the clearest example of this when he says that he is using it to get “any information in my private life”. Even when he was looking for the address of a friend, he just searched his or her name on the Net. Yet, this was only possible, because within his circle of friends and acquaintances it was common to publish such information via the WWW. Within the group interviewed here, only a minority did this. More common, however, is the use of the WWW to search for any kind of travel related information, like airfares, connections or regional information about the place that is visited. Information about prices of consumer goods are searched for, too, whereas buying itself with the exception of books more often is preferred in the traditional way.

Communication is at the core of scientific work. Nowadays it never ever happens “in Einsamkeit und Freiheit” ('lonely and free', Wilhelm von Humboldt), but in teams, which may be co-present or may be spread all over the country, Europe or even on a global scale. Dominant arguments here stresses the respective *suitability* of different media. This is most pronounced in comparison of letters and email. Weighing pros and cons of paper and pencil they are defended as being appropriate in specific situations:

“... to me of course it's a lot more personal than writing an email. You put in more effort. ... If this person means more to me - it's not that with email it means less - if I try to make a point of course than I will write a letter, yes (Mia).”

It takes more time but it is much more important I think. Normal mail is really touching people, is a really personal thing. Other things a more quick, commercial,

it's like a hot dog. You can go. Otherwise, a normal letter is like you walk into a restaurant. You sit, you eat, you have the candles. That's a romantic thing (Jozef)."

Writing letters was reserved for special opportunities, "when a person means much" or a special occasion like the birthday of a close friend or relative. Time, like in many other respects, was a crucial factor in this decision. Although email was used for longer and more personal letters as well, the interviews contained many appraisals of email as being more appropriate for quick exchanges. For instance, there is a genre of exchanges, which could be called the 'Hello, I'm alive' email. Bart described this:

"Sometimes an email is more convenient, you can just key in one sentence and that's it and then send it. You can do this even when you haven't spoken to a person for a long time."

Joan sketched the contents of such emails as, "hello, still alive, today is a good day, weather is good, and I hope you and your family too, bla." However, when she compared email with the telephone she mentioned another time-related advantage of email:

"So it's I just have always liked email not least because I guess I like the idea that I can send something especially if it is a request, the person I write to can absorb it and decide how and in what way he or she will answer. And I feel in a lot of what I do I like to be most it's just in my way, I like to be gentle and not just force people to do something and I find in that way email a bit more gentle because you know that that person has received it and they do have to answer - unless they are just a sort of disorganised person that happens as well, but you generally now that at time - an answer has to come. If an answer doesn't come that is also a particular answer."

That email is asynchronous communication, which was considered as less intrusive, also played a role in other accounts, like in Lea's case:

"I don't use telephone, because I think email is the best for me. When – you know – who will read it when he has time and he will answer me, because you are not sure when you phone, what the person is doing. I don't like this."

Joan discussed two more advantages of email to do with the specific situation of migrant researchers. The first one again was about time:

“And now it's even more so since I'm in this country and sometimes it's people in the United States and I need to contact colleagues, it's not the time difference, 'Are they awake? No. Ok, wait until 7pm.' and so forth.”

The second one was related to language:

“And also in the Norway context - as you will probably know - in the early stages it was such a nightmare talking on the phone. O my god! It was just terrific, because you understand three words out of the 25.”

A broad variety of media is used to establish links. Thereby ICTs and above all Internet related services like email and the WWW have become indispensable. Perhaps even the most important tools within the toolbox migrant researchers have at their disposal. There were two main criteria applied in the choice of a certain means of communication (including face-to-face encounters). First, a mix of many different sources of information was considered ideal. Second, the actual usefulness of the respective communication channel was under closely scrutinised.

Recent findings about use patterns of American Internet users point into the same direction. With increasing use at the work place and more experience, the use gets more instrumental (Horrigan and Rainie 2002). Migrant researchers as “Internet veterans” and professional “heavy users” might be at the forefront of a more general trend.

4.4 Flexible work

Researchers have, at least compared with many other professions, hardly any external restrictions concerning both the content and the time and space of work. The older metaphor of the factory, symbolising a regime of gathering collaborators at a certain time and under one roof, obviously is not applicable to their work conditions. Instead groups break off and gather again to get a specific job done. As such this kind of work resembles project work, which is usually short-termed assignments of professionals to solve specific and limited problems. These collaborations may cross-institutional boundaries, but the specialist typically remains assigned to an organisational unit (Perin 1998). This clearly is the case

with migrant researchers involved in collaborations with other departments or even non-academic institutions while remaining members of their respective departments.

The previous section presented evidence that researchers use a broad variety of media to establish and foster links on an international scale. Yet, as one could expect from the findings about ICTs and academic work presented earlier, collaboration using exclusively technically mediated communication seems to take place rather seldom. Tamara, for instance, at the time of the interview had just arrived from a trip to the US, where she had spent some time with another mathematician (who is also Russian) in order to rehearse a certain mathematical problem. She had read his articles and used her stay to go through this article together with him. This would also have been possible using technical means of communication, but as she said: “It's so much easier being there!”

This truly short-termed collaboration involving a trip to another continent and to Irina's, - “In my case every day is different. It depends how I feel” - might suggest that research work is completely individualised and unregulated at all. Mario apparently enjoyed the fantastic freedom to work less during summer, which he did because he prefers to do outdoor sports. As new metaphor, replacing the factory, like the freely floating atom – sometimes gathering to unstable molecules – seems more adequate.

Unlimited freedom also seems to be the case in terms of the content of work. The keyword mentioned repeatedly in the interviews in connection with the current job as researcher is, “interesting”. Representative of the others, Mia tried to answer the question as to whether there is a favourite activity in her work:

“I don't think I can actually pick out a favourite, because I like everything, I mean <laughs>, most. That's the nice thing about this kind of work is that you really have to have a real interest in it. When you like the subject then of course you will like all aspects of it.”

She established a link between the amount of time spent for work and the interest:

“It depends on your personal preference: sometimes when you have something that is really interesting then you put in a lot of hours and then sometimes like you want to relax a little bit then you don't.”

Correspondingly, it was difficult for the respondents to name parts of their job, which they did not like. Manuel, for instance, first could not “think of anything” and then added: “When I have spent my precious time for anything that is not worthwhile.” Again, the connection between time and the content of the work was stressed.

The impression is that the interviewees mostly spent time on things they were just interested in at hours they chose according to their own needs. A possible interpretation is indeed that researchers work in only loosely connected networks, being freely associating nodes, whenever and wherever they are interested. However, a closer look reveals some factors to do with restrictions of purely individualised choices of when and where to work.

The clearest limitation concerning time and space of work consists of the collective “flexitime” work agreement encountered in one research institution from which some interviewees were recruited. The rest of the interviewees were working according to individualised deals with supervisors or other superiors. At universities sometimes at least a fraction of weekly working hours is spent doing other peoples' business, the rest is at the respondent's own disposal. Mario and Ares, for instance, sometimes assisted their professor in preparing lessons and the like, Manuel had to teach, and Irina had an additional job as assistant at the chair where she was writing her PhD thesis. These assignments were usually regulated tighter in terms of working hours.

Fieldwork and work in the laboratory in some disciplines impose natural rhythms of presence at the work place. To be dependent on special apparatuses and equipment in some cases means not only a spatial but also a temporal restriction, because of the need to co-ordinate machine times or to observe the ongoing experiment. As Lea reported: “Sometimes, because sometimes we have experiments that goes and you should follow, to switch on the equipment....” Jozef – working at the most expensive piece of equipment of all, the accelerator – reported that the rhythm of experiments, which take place only several times a year is clearly influencing his work rhythm.

Other occasions similarly restrictive include conferences, deadlines for papers of all sorts, meetings, and presentations. This was sometimes a major source of discontent for the researcher, because “it keeps me from my actual work” (Manuel). However, for Ares the

opposite applied. He recounted his various efforts to initiate more work related meetings at his institute – they were all in vain, because of the lack of interest of his colleagues.

Another restriction deals with external collaborations, funding agencies, and the contractors. Grete complained about the growing influence of “the industry”. She observed that:

“...projects actually have ... [been] taken out, because there is no external income and I think that's a bit sad actually, because sometimes these projects will form a background for making new companies coming in, but they have to run for three years before they get money in for them ... so it's more stressful to get money.”

However, others, like Mario, welcomed this: “I find this very important to have the contact with the industry, to learn how they work, what they want from the institute.” Regarding what the industry wants from her research, Grete alluded to different and tighter schedules and researchers unanimously identified restricting moments as having to write reports for the contractors of their research or just to meet them. These were also the situations cited by researchers, when they were put under extraordinary stress. Another observation about restrictions or flexibility was linked to a domain external to the sphere of work. The everyday life of Maria, mother of two little children, is structured by the kindergarten:

M: ... in fact we follow 'barnehagens' [Kindergarten] schedule. For the last two years there were 50 percent, it was three days every other week two days, not the same days, because that is the system in our 'barnehagen' and I think also in Trondheim in many 'barnehagen'. So, I'm flexible here that works out very nicely and they are flexible and they are looking: "When can you come" because they know when I have the children I cannot work. So they are very understanding. And now we got this 80 percent position that was four days, so at Wednesdays I was at home and then they went almost the other four days to 'barnehagen'. And now we change again after Christmas, in December, so I would be Monday and Tuesday and Wednesday I will be at home and then one week Thursday and one week Friday. They like to change, switch from one week to another, I think it's about the schedule they decided, because on each Friday they go on a tour or whatever and they don't take all the children then.

T: What would you prefer? Which organisation?

M: I prefer fast, I mean permanent days, I think it's easier for organisation but now I

got used to this. <laughs>

Nevertheless, in terms of work organisation, it is surprising how much flexibility she had. After all, she was able to comply with the quite complicated and irregular schedules of the kindergarten and adapt her working hours to these. Flexible work here means the freedom to accept the structuring force of another institution.

Taking all these observations together, the assumption of researchers as freely floating nodes in global networks becomes questionable. They are more or less rigidly embedded in local networks of humans (collaborators, contractors, children) and things (equipment), which impose certain limitations regarding time and place of work. However, the amount of individual freedom is considerable.

4.5 Summary: Free flows and residual boundaries

The section above raised a number of points with de-territorialising qualities:

- Households are distributed transnationally
- interpretations of differences are transnational transcending the dualistic pattern of homeland and hosting society
- the transnational language English is the pragmatic choice in work and non-work
- social networks consist of other foreigners, present or remote
- the establishment and fostering of transnational networks clearly is accepted as prominent task
- a broad variety of media is used routinely to sustain transnational networks on a daily basis
- the institutional context of work allows far reaching freedom in terms of time, space and content of work.

The cases of migrant researchers highlights the transnational and de-territorialised character of their everyday life, none of these observations is about disappearing boundaries. Barriers remain, which this paper terms *residual* boundaries.

So, a study, for instance, of flexible work under the condition of missing extrinsic restrictions, still shows intrinsic restrictions like the need for co-ordination of different

schedules in meetings, deadlines, or material rhythms in experiments still can exert quite a lot of structuring power. Furthermore, in some cases the structure of agendas of other institutions, (for example, the kindergarten's schedule) takes over.

In the case of transnational households, cultural differences and the migrant's struggle with dialects and his or her difficulties to get to know locals, the residual boundary is the problem definition and attitudes of the migrants themselves. These problems do not seem to severely interfere with everyday life. But, as the migrants say, "some day" they want to live closer to their parents or the partner and "one day" they would prefer to speak their own dialect again. Another type of residual boundary depends on qualities of the place, where migrant researchers live. The choice of the English language is only feasible as long as it is actually spoken at the respective place of residence. Thus, thus the degree to which a location is already part of transnational networks exerts residual restrictions to deterritorialising practices. With respect to media use a final category of residual boundaries can be described. That migrant researchers under certain conditions prefer local sources of information - a colleague, the local library - is due to rational considerations of time-efficiency. Even in a transnational work environment some local practices are either simply more efficient or these local practices can complement transnational practices.

Residual boundaries appear as intrinsic restrictions, imposed by other institutions, dependent on characteristics of the specific location and evoked by the migrants themselves in rational considerations of efficiency and problem definitions.

5. Practices of Re-territorialisation

Looking at the meeting place between local environments and those practices that transcend the local, another kind of practice can be observed, which is about the deliberate efforts to re-establish boundaries, which then define new local spaces. This section focuses on two of them.

As in the case of email use at home, even the most active users mention certain restrictions. These restrictions cover above all Internet use at home and the use of mobile phones, which

are discussed in the next section. There were also interviewees who defined flexibility as one of their main problems in life. Their means of dealing with the problem and how they differ from others who apparently handle flexibility with more ease, are the issues discussed in the subsequent section.

5.1 Not being accessible

Each interviewee had access from the workplace and all of them actually used Internet and this makes it possible to identify four different types of usage in workplace and home. It is possible to distinguish six groups when analysing external reasons for their usage patterns. Extrinsic and intrinsic arguments of course overlap. Sometimes the interviewees did not want what they cannot get and a more in depth analysis of sometimes inconsistent statements, though surely interesting, is not within the scope of this study. Thus, these findings intended to characterise these groups include some element of exaggeration necessary for vividness and clarity.

The first group of five cases did not have access from home but would have liked to have it because, for instance, it would be more convenient “to have it around”. The Brazilian, Leo, who lived close to the city centre mentioned that it could be annoying to go to the university's public terminal only to check mail, especially in winter when it is cold. In all five of these cases, it was mainly financial reasons that kept them from buying a PC with Internet access. Although Jozef prioritises a car, the PC would be his second next bigger purchase: “maybe later after the car ... after the computer there is maybe a house in Bulgaria”. His patterns suggest that if he had no external restrictions he definitely would belong to the group of users that have access at home and at the work place and that are using it extensively. With minor modifications, this also can be said for the others.

A second group of four interviewees did not have Internet access at home, and did not express the desire to have it either. A set of reasons is responsible for this. Rainer mentioned two of the most important ones:

“I'm not planning to buy a computer here in Norway because I have very good conditions at work. ... Home is also the place for relaxing from work....”

With that he represents not only the other cases in his group but also the interviewees that

had access at home but did not use it on a regular basis. For them the computer represents work, and they argue that there should be a space clearly distinguished from work - the home. Mia expressed this explicitly:

“It is kind of made this way [that there is no Internet access at home]. My boyfriend, he is also, he does a lot of programming as well. Then we don't want to come home and sit in front of the screen again, that's terrible.”

Joan gave a common justification for this in terms of “I spend so much time here so that I think I need some place that's not work.” In fact, four of these eight interviewees that either did not want access at home or did not use it report working hours at the office that regularly exceed ten hours daily. But even in cases in which the refusal to use the Internet at home is not related to long workdays it is part of strategies to separate work and home. Grete, whose time budget is balanced, expressed this explicitly:

“I think I have always kept work at work and spare time at home. I find it a bit complicated to start work at home, so you never relax, your brain is never off and I like being off when I'm getting home.”

However, she – like every other migrant researcher interviewed here – recognised that this separation only works up to a point. Two observations exemplify these limitations. First, migrating researchers mainly know other migrant researchers, more often than none colleagues. In Grete's words:

“... that a lot of your colleagues is your friends at the same time [your friends] so if you go for a hytta [a cottage] or whatever you talk geology once in a while, so you get a mixture of work and spare time anyway. No matter how much you try to separate, you get this mixture.”

Another qualification made by everyone trying to separate work and home had to do with periods of stress, particularly when a deadline was due. However, according to the interviews, they succeeded at least in terms of Internet usage. They might have read a paper or finished writing a paper at home, but they would rather have come in to the office at a weekend when it was really necessary, than go online at home. It is remarkable that all three interviewees that did not use their existing access at home could have free access paid for by their employer. Moreover, two of them reported that their partner living in the same household used the access more often. Both, the partner and the availability may be a reason

for them to have access at home, but not for its actual usage.

A rather special case is represented by the fourth group, which comprised one person, Sabine. She had access at home *and* at the university, but she did not use the latter. Her explanation was plausible:

“I mostly study at home because I'm used to this and it's easier for me because I have most of the stuff which I need on the computer at home and we can also always get Internet access to the university computers so we can do the same things. ... And the problem is why I always like to work at home more, better that you always have your computer. Sometimes you have to wait then. Then you only loose time. The exchange students have a working place of their own <at the university> but there are 20 people in the room and it's not quiet. ... It's easier. Especially, you can install the programs you want. You are not allowed to install the programs you want at the university.”

Furthermore, she was one of the interviewees with extraordinary good conditions for Internet usage at home without temporal restriction for a monthly fee of about EUR 10.

The fifth and last group of users, comprising four to six cases, which used their Internet access at home *and* at the workplace on a regular basis. The enabling quality of comfortable access at home became especially apparent in the case of two of the most active users. They could be called the “always on” users, for they are scarcely offline. Ares, when asked how many hours in average he is using Internet at home, said:

“It depends, you know, but as soon as I reach home, I start it. I mean, it's there.
'Ok, I got a message; lets see who's that? Oh, this guy is online, lets click on it.'”

In terms of content, he first claimed that there was hardly any difference between his usages at home or at the workplace:

“No. There's no real differences. But sometimes you maybe want some sexy stuff, or, you know, check something like that, ok, when I want to do that then I do it at home, not at work, definitely. But nothing else. I mean, when I am at home, I chat with my friends, when I am at work and I want to chat, I chat at work.”

In the next sentence, then, he introduced an important qualification:

“So, I don't study at home. That's for sure. ... To me it's a kind of concentration. I'm afraid, I have got no concentration at home. Mostly the TV is on, and I watch TV and I, and I, watch TV, you know, to sleep.”

Thus, his separation of work and home with respect to space is particularly remarkable because this clearly was not the case regarding time:

“It also happens that I suddenly wake up at night at four o'clock in the morning, I can't really sleep again for some reasons, I don't know. Or sometimes I am really concentrating or thinking about a thing that I am doing: 'Oh, I found it! <snaps with his fingers> Lets do that!' Then I go immediately to work, I just go to work. So, I really appreciate it that I have no fixed working time. That's the way I love and that's the way, I think, it should be as researcher. If you, some of the guys here, they really stick to their working hours. They come at half past eight or nine and they and they go at four, four thirty. And I don't really see them out of the working hours. But I don't know I'm kind of a crazy guy you can find me here maybe all the time.”

The second “always on” user was Irina. She reported the same reason for why she is not working at home: “At home I can't work... it's impossible. There the phone is ringing, there is Russian radio, and there is a very comfortable bed where you can lie down.” Whereas Ares mentioned the TV, the phone and web radio as intervening media. This indicates that in turn the workplace is protected against the disrupting influence of certain media. The most important difference between both users is that Irina was separating in terms of time as well. Bart and Marc used the Internet on a regular basis at home, but they not “always on”. Marc, especially, was clearly separating home and work in every respect:

“I think it's – I couldn't do the work I do without the library. That is why I can't work at home. The 'hjemmekontor' [home office] it is not feasible, because I need very much access to the library. I could of course organise myself in a way that I work at home and then only come at periods at the library. But this would really impede the way I work personally, because I read something and I see a reference and then I want to go and see what it is and then I come back and continue reading. So, I go to the library once a day at least.”

He presented his Internet usage at home as being of mostly private nature. This applied to Tamara as well. In her case she had a special reason to access email above all at home

because there the computer was equipped with Cyrillic letters and “It's not so pleasant [to write Russian with Latin letters], because it's not so Russian.”

To sum up, some common traits can be identified in the manifold ways to organise work and home in terms of Internet usage, . Firstly, there are material conditions of access. Unrestricted access at home that was provided for free or for a minor fee is important as enabling condition. However, only the lack of resources is really influencing usage with respect to time and place – as Jozef puts it quite bluntly: “We don't have Internet at home yet because we are poor.” Being an “always on” user does not necessarily mean that work and home are mingled. However, the fact that work for migrant researchers inextricably is linked to Internet usage does not mean that every case that rejects Internet usage at home is also a case that is separating home and work, at least.

Every participant was somehow voluntarily restricting his or her media usage with respect to time or space. Even Ares, the one that is most indiscriminate in his media usage, mentioned his TV usage at home as one reason to prefer to work at the workplace. This restrictive spatio-temporal embedding of media usage in daily routines is an active effort since external restrictions for the majority are in fact non-existent.

There is especially one means of communication, which is unanimously assessed critically. Although most of the participants have a mobile phone it is used only under certain circumstances and at certain places. When interviewees mentioned this topic it always resembled a justification of their decision not to use the mobile or only to use it under certain circumstances. The next dialogue contains this typical defensive attitude:

Mia: ... which is something I decline to put on as long as can. I might have to get one in the future but I really won't get it if I don't have to. ... I do research in this mobile communication area and I hate mobile phones.

T: What do you hate?

M: I think it's very intrusive and I don't want that you can reach me all time everywhere. So, if I'm not there, I'm not there. There is always another chance of

getting it. Plus: People become so dependent and involved in this thing, yes.

T: You can switch it off?

M: <laughs> Yes, yes of course, I mean, the idea to have a mobile phone of course is not to turn it off, right? I mean, you want people to reach you when you are on the go. In that sense. <laughs> And even if I do get a mobile I think I don't want something that involves WAP feature or so, anything. I think that should be done stationary as opposed to mobile. In that way I think I'm very conservative.

Mia anticipated that some day she would have to have a mobile. For that she built a new line of defence (no mobile Internet access) but for her clearly accessibility bothered her. Why is it that it is so bad to be accessible? Manuel elaborated on this:

“I didn't feel the need, yet. I spend most of my time anyway here. ... Maybe I get one later. It's good, sometimes in the weekend when you are out somewhere, reachable. On the other hand it's an extra source of additional tasks or work, because the more ways you can be reached the more ways you can get some extra work.”

Because work as a researcher is so closely related to communication, more accessibility is again equalled with more work. Manuel's statement included the second important reason mentioned in other interviews as well: there is no need. Again the rational weighing up of a communication tool is encountered. This additional channel of communication is just not considered necessary, because the degree of accessibility reached without it already is sufficient:

“Because I think there is no need for that, because I, mostly I'm at work and at home. If someone wants to reach me and has both my numbers, so they can reach me. ... And there's no business or that kind of relation that I really need a mobile (Ares)”

However, there was a group of respondents that preferred a negotiating position. They listed certain situations in which they would use the mobile phone and situations in which they would not. Typical situations exemplifying usefulness of mobile phones are problems with the car/bicycle (Mario, Jozef), travelling (Joan, Marc), fieldwork (Grete), going on a walk (Marc, Maria) or keeping contact with the baby sitter (Marc, Maria). Locations and situations in which the mobile is shut off were defined *ex negativo*.

Bart was the interviewee whose mobile interrupted the interview most often. When this is taken together with his statements in the interview he could be considered the most active user of mobile communication. He gave a simple reason for this. Bart said: “Basically for people from the Netherlands that they have one single number where they can reach me always and ever.” But he expected them to take into consideration his privacy concerns:

“My best friends - male, female - would all have access to all addresses and places where they can reach me, but they know that, how should I say that, that access is limited in a healthy way, in a sense that 'Ok, I have his cell phone number but I shouldn't call when he is at his job. You know it's all about respect, mutual respect.'”

This is management of accessibility by trust. He also restricted his usage himself: “I would never take it [the mobile] with me when I'm going out.”

Maria, finally, was the only one that felt even tempted to use the mobile phone too much, both for chatting and sending text messages:

“I mean, I think, I like telephone, so in one way I didn't want to have mobile, because I think, if I start with mobile I would use a lot. So I try to say: 'No, I don't take it' also in working hours I try to. I would maybe send messages and answer messages. ' I think, in one way, if I would start with using that, I would like it. But I think it would take a lot of time. And, maybe I try to keep away from that. <laughs>”

She was the one organising social relations for the whole family. The mobile phone represented a tempting way to do this mainly because of the relative low costs of usage when people are living in relative proximity. Long-range communication is cheaper by other means. In turn the lack of local contacts even can prevent some from using a mobile phone like in the case of Lea:

L: Two reasons: It's too expensive and I don't need it here, because in my country I used mobile phone for my work, because I have so many connections and at least everyone can reach me and ask, because I spent half of the day in the office, so ...

T: And here is nobody that desperately needs to reach you.

L: Yes, yes, it's no necessity to have here, I thought in the beginning that I will buy, but why' It is no sense, just by to have one, no! I have telephone at home; I have

connections by emails to my friends. That's all. I don't like to have thing because I can show.

Maria had local contacts but decided to restrict her usage of the mobile phone for socialising to the home, so that her work was not disturbed. However, at home there was the stationary phone. The mobile again turned out to be useless.

As was presented in the last chapter there is apparently a great willingness to choose the technology, which is most appropriate to the given task. If the communication partner prefers a certain kind of media or has restricted access then other means are chosen. However, email is outstanding in its importance for migrant researchers. They prefer this way particularly because it is unobtrusive.

Though migrant researchers tend to choose media to optimise information gathering and communication, they reject some forms of media use. Being accessible becomes particularly an issue when it comes to access outside the work place. Even the most active users of these technologies introduced a couple of restrictions. Mobile phones and Internet access were either spatially or temporally, or in both respects limited in every case interviewed here. Accessibility usually equalled with work and more accessibility means accordingly with more work.

Another noteworthy tendency within the group of migrant researchers had to do with the nature of these limitations of media use. Negotiating attitudes are rather seldom. Examples like Bart's management of accessibility by trust or Marc's use of Internet at home for mainly private reasons are exceptions. More often it is either rejection of a communication technology for a certain time/space or its full adoption, which is accompanied by a full incorporation into the respective domain of everyday life, changing it in turn. The rejection is often justified in terms of the media so profoundly changing everyday life.

5.2 Impacts and interpretations of flexible work

The dark side of flexibility is evident in descriptions of severe problems related to flexible work. Three considered flexibility their main problem. First there is Manuel:

T: You mentioned that lately it was a lot of work...?

M: Yes but not because anyone has put pressure on me. It's just because of the person I am. I always give myself some tasks, some goals and sometimes I make this mistake that I have too difficult goals and then I run to pursue these goals and it gets really difficult.

He was responsible for a couple of students and he did not manage to provide regular hours for tutoring, “because my schedule is quite dynamic“. This and other interruptions (for example. talks) keep him from doing what he called his “actual work”. One important source of distraction was incoming email, which he had to keep track of. It was checked automatically every five minutes and announced new mail with an acoustical signal, which he sometimes turned off “when it starts beeping too often”. But generally, he tended to interrupt whatever he was doing

... to see if it is something important ... because sometimes it's very important to react immediately.

T: What would that be for example?

M: If it is for example directly related to my current work. I have for example sent a request to some company to get some information or a proposal for something ... then I'm usually waiting to get this data from the corporation and it's in my interest to get it as soon as possible.

As an indispensable tool needed to carry out his work, he accepted this kind of interruption as well as the fact that because of his “dynamic schedule” he was not able to prevent students from just popping in irregularly by providing them regular hours. His response to this kind of overload was long working hours and a lot of work done at home in the weekends. It was no surprise that returning home after some 12 hours it was difficult for him to “get my mind off the work”. This was the case even though he did not have Internet access at home and did not plan to get one. The only remedy he could think of is spending more time with his friends; in other words: to create spaces in which he is “off work”.

Joan's argument for not having to use her Internet access at home was similar. She worked long hours as well and did not feel the need to be online the few remaining hours. In contrast to Manuel, however, she seemed to have succeeded in creating spaces that are free of work. It first seemed like she had found the way to manage work in a way that is

sufficiently satisfactory for her:

I have probably a Northern American attitude towards work because I do what I got to do to get my job done. Because in my job there are certain things that I want to do and sometimes the things that I want to do get knocked out. So if I want to do those things then I have to be here on a Saturday or sometimes on a Sunday or late at night or in the evening. But that's because I enjoy my work and I want to do my work in a professional way. Maybe I have different standards or I'm not efficient as I think.

She shared these high expectations towards her own work with Manuel, the Bulgarian that apparently has a “Northern American attitude towards work” as well. However, later in the interview she questioned it:

“I'm still feeling stressed because I always want things to go very well. It's a thing of personality. And sometimes one gets exasperated because just of ... the things going too slowly. ... But I've sort of decided that – I guess that has partly to do with age, partly to do with drowning in the job, and not least also I have to say in the last month since September, 11 I ... reflect on what a day really is, what it means, what's important. ... So just try to get as much done as I can and if it doesn't get done and just say to myself: 'this is probably the best and we have another day tomorrow'.”

As part of these “significant efforts”, as she called it, to reduce her workload she once tried to check her email only twice a day in the morning and evening. This did not work out because she was too dependent on regular email checks. At the time of the interview, she kept the email window hidden on her screen and checked only periodically. Still, she could tell when email arrived:

“Actually I don't have a 'ping' on mine, because I didn't want it to interrupt me. So it just makes a little - I can tell when it's coming because my hard drive makes a little grunting <laughs> noise.”

Another strategy “to get her actual work done” was to work in the laboratory because

“... for some reason more people are afraid to go into the lab because it makes loud noises and has flashing lights and things. So people are less likely <laughs> to go into the lab, so sometimes I go in the lab and just stay there even if I have no work there. There is another PC.”

So, she not only tried to protect her home but also to create spaces at her workspace that are protected.

Manuel and Joan were both 35 at the time of the interview, but Joan was employed in a permanent position and Manuel was writing his doctoral thesis. However, they both had work took over other parts of their life at least in terms of time. They defined their main problem as being unable to meet with their standards of high quality work. Their high sense of duty resulted in them accepted too many tasks, which then left not enough time for what they considered their “actual work”. As a consequence, both work and non-work became a source of frustration. Their strategies were similar – creating work-free spaces although Joan seemed to be more radical in her implementation. Still, it took “significant efforts”. In both cases email appears to be not only an indispensable tool to establish links needed for work, but an additional source of disruption comparable to the interruption caused by “people knocking at the door”. Again Joan tried to restrict this more rigidly than Manuel, but with only partial success.

Irina's case was closely related, albeit different at first glance. She experienced Manuel and Joan's problem the other way around in that Irina found it difficult to focus on her work because of non-work-related influences:

“I sit down and try to read something. Then something comes into my mind, which I should look up. And then you click around a while in the Internet or whatever. And then one thinks: 'O my god! Actually I wanted to read!' And I'm not able to read for – lets say – three hours in one piece. That's simply not possible. I can't, not even one hour. Then I have to prepare tea or: 'Lets go shopping!' ' Even when I'm 12 hours at the office it happens very rarely that I am working 12 hours.”

Email again was a main source of distraction. It was checked automatically every five minutes and if a new mail arrived she 'has to' check it. The only activity she would interrupt if a mail arrived would be talking on the phone. In her case non-work was intruding on work. Therefore, work at home was not an option for her:

“At home I'm not able to work. ... That's not possible at all. There the phone is ringing there is Russian radio, there is music, there is a really comfortable bed, where you can lay down.”

Accordingly she tried to work more efficiently by going into the office regularly but with limited success. When she had the feeling that she had been too lazy the week before, she came in at the weekend, something that happened once a month. Like Joan and Manuel, she reported long working hours (some 10 hours) and added to this coming in at the weekends rather regularly. In her case it was not so much the variety of tasks that burden her, but – as she describes herself – a lack of discipline. The outcome, however, was the same.

A closer examination of this group, which reported severe difficulties in managing flexibility, reveals commonalities and differences. The topics “sense of duty”, discipline, long working hours and efforts to create protected spaces including the reduction of media usage are prevalent in the interviews, yet they did not appear in a consistent pattern. A clear commonality, however, was the constant struggle to organise everyday life and its media usage in a way, which enables them to do “good” work and have “quality time” outside work. It is worth bearing in mind that the main source of flexibilities was located in their work and that all of them were living alone without children. This might explain at least a part of their problem: there is no other force restricting their flexibility. The influence of factors located outside work and above all in family and children was stressed within the interviews itself. Uttering similar statements to Joan and Ares, Bart said: “Surely it plays a role that I don't have a family waiting at home, kids screaming and waiting for me with the dinner.”

This view, however, has to be tested against other singles that were apparently not affected by problems of flexibility. This was a group of eight interviewees living alone and who did report flexibility as main problem. Their overall living conditions were very different and in three cases the experience of coming to the new country was quite a new one. Sabine, Jurij and Rainer were still in the process of adapting their everyday life to the new conditions. Thus, it was difficult to tell how the outcome would be. The remaining four interviewees showed four different ways to manage flexibility.

Lea's problem definition is different, yet closer to Irina's than to Manuel's and Joan's. The word discipline was not mentioned, yet concentration and focusing appeared to be a problem:

“For me to sit and to read, I hate this. For me it's very difficult to concentrate on small details. For me it's a wonderful thing, administrative work, organise something, to arrange something, to communicate with people. And even I feel now, I did so badly in studies and it's so difficult sometimes to remember very simple things. And I don't need this for my life, equations, because my friends before I left my country say: 'are you crazy?' because it's not my field.”

Whereas Irina stressed distraction from what she actually had to do, Lea stressed that she did not want to do it, because she was not good in it. One reason for this difference was that Lea was arguing against the backdrop of her former job, an experience Irina, who had always worked at university, did not have. What Manuel and Joan described as a problem – too many interruptions - Lea was longing for it. In the light of her experiences in Norway, her former job as secretary at a Lithuanian department appeared as a “golden age”. There she had been integrated (“so in my previous work we had very good work environment, so we were quite young a lot of young people and we were friends and colleagues. It was perfect!”), which was something she missed at the time of the interview. That was also the reason why email at the work place was welcomed rather than seen as an interruption:

I wake up about half past six and I try to be here about eight or about half past eight and I stay about until seven.

T: It's pretty long, isn't it?

R: Yes, it's long. But – you know – it's not 100 percent of work. For me it's also, I have Internet and I have a way of communication with my family and with my friends.

Even though she was staying some 11 hours at the office she did not consider this as long working hours, because through email she was getting there what she had been missing: being integrated, feeling that someone needed her.

Bart, similarly, did not complain about too much distraction but rather about not enough. Again it was the former job that functions as backdrop. Before he came to Norway in 1997 he had been a researcher in a small consultancy company. “And that was quite a change from me being a such a product manager with responsibility for the entire company, because I felt that in that company I could not do the research that I want.”

Now sometimes he missed “the instant problem solving”, the need to improvise specially during the last year it had been “too much office work”. Unlike Manuel and Joan, but similar to Lea now he was not part of a variety of local projects.

Thus, experiences with former jobs and the local conditions for work reveal their important role as to whether flexibility becomes a problem. Migration is about the change of everyday life, hence it is not surprising that the experience of “too much” and “not enough” is measured in relation to former conditions. Other approaches of singles not complaining about flexibility of work are rooted in attitudes to work. We already got to know Joan’s “Northern American attitude towards work”. Mario introduced the “Chilean way”:

“But I work like we work in Chile, so: if we have work we work a lot and if we don't have much pressure we don't work so much, so for example if we have, if I must present the work to the people from the institute, I work two weeks [without having any] weekends, too.”

At least in his current situation this was not problem either for him or his colleagues and superiors:

“I do not disagree with my way to work, if I work two weekends before I have a presentation for me it's not a problem, I can make it. But other people don't do it and sometimes I think they don't understand it but they accept it. If I come to an end with my presentation it worked good and the professor, I think has the same opinion. He never said that I must work more.”

One might ask what would happen if he constantly had a lot of work and periods of stress became the norm. The “Chilean” way to just “work a lot” might then easily become “Northern American”. Thus, in Mario's case there was no explicit strategy to manage flexibility, because there was no need for it (yet?). Under his current work conditions flexibility opened up new spaces of freedom unknown in other settings. As already quoted above, he was able to work less during summer because of his particular liking of outdoor sports (compensating for this during winter).

Ares, not sticking to fixed times for work or even eating, might be called the most flexible worker within this sample. He called this: “kind of out of the program, I'm quite radical <laughs>.” Flexibility pervaded every aspect of his everyday life, his favourite activities, for

instance:

“I’m kind of crazy guy, just many things from different places and I love a lot of things, but I know only little of them. I love variety of things. I’m not kind of very restricted to something or have a kind of very special learning, you know a guy that is very good chess player or diver or just a very good singer or something.”

It was a part of his identity, to be that “crazy guy” that “tries to do many things ... just get to know people, new friends, new folks, new sports, new places”. This then, unsurprisingly, was part of his way of organising work, too:

“It also happens that I suddenly wake up at night at four o’clock in the morning, I can’t really sleep again for some reasons, I don’t know. Or sometimes I am really concentrating or thinking about a thing that I am doing: ‘Oh, I found it! <snapping with his fingers> Lets do that!’ Then I go immediately to work, I just go to work. So, I really appreciate it that I have no fixed working time. That’s the way I love and that’s the way, I think, it should be as researcher.”

This pattern was encountered in his media usage as well. He was the only interviewee to allow Instant Messaging to pervade his whole day.

How did someone like him react to stress?

T: Have there been times when you feel stressed?

A: Sure, sure, especially when I, it also happens to me that I feel really as a stupid guy and I say: ‘I don’t know anything!’ Especially I just came across a very recent work that comes from that place or from that person. Especially when they are doing the same thing that you are supposed to do. And then you feel yourself really far behind. Ok, how can I manage this and it’s just another thing added to my work. And in that regard you feel kind of stressed.

The phrase “just another thing added to my work” could have come from Joan’s and Manuel’s interviews as well. However, the main difference was that Ares did not consider this kind of stress a severe problem. He knew about it, but accepted it as part of his lifestyle as well as disruptions caused by Instant Messaging or distractions of time-consuming search sessions on the Web.

No matter whether it is considered as a major problem or not, there is a close relation

between flexibility and stress. A couple of relevant circumstances have been identified. Whether flexibility becomes problematic or not depends among other things on the workload, the individual lifestyle, experiences from former jobs and particularly whether there are factors restricting flexibility that are unrelated to work. Apparently the work of research lends itself to flexible work both formally (time and space) and in terms of content. Flexible work seems to have an inherent tendency to spread itself into other domains of everyday life. The individuals interviewed here accepted this to varying degrees. Ares' case was in sharp contrast to Joan's. It took her significant effort to resist the joint forces of flexibility and high workload. Her attempts to resist never ended

5.3 Summary: 'Over-flows' and secondary boundaries

Previously, relatively weak residual boundaries were identified as intrinsic restrictions following from material and social settings of the workplace, as imposed by other institutions, and as dependent on local characteristics. In this section many of these residual boundaries are lacking. However, this does not necessarily lead to greater de-territorialisation. On the contrary, routines and deliberate efforts to create *secondary* boundaries resulted. So, for instance local specificities that support de-territorialisation both on the macro (global-local) and micro (home-work) level, like cheap Internet access at home sponsored by the employer, are countered by manifold self-imposed spatio-temporal restrictions concerning media use. Particularly the home, though it is not the only place (see for example, the mobile phone expelled from the pub), in most instances rules out certain kinds of media use and lends itself to other kinds of use. So, home making as a special case of place-making typically involves the deliberate configuration of media use.

Another problematic lack of residual boundaries - missing restrictions imposed by family members living in the same household - can be encountered in the case of singles, who experience flexible work as critical. Here the structuring power of work, which previously was seen as relatively weak, due to a high individual workload becomes strong enough to threaten to take over the whole life. Workload is a key to the understanding of benign and malign impacts of flexible work. In fully flexible work it is completely up to the worker where and when s/he is carrying out his/her tasks. Residual structures follow from objective necessities, for instance that two people at least sometimes have to be at a certain place at the

same time, when they try to collaborate. Under the condition of a high workload, for example, if someone is involved in several projects (that is, collaborations with the need for meetings), these residual necessities can become major forces structuring the whole life of the worker.

An important strategy for achieving control again is place making, which always also involves management of media use. Again it is most often the home, which is fortified as stronghold, but other places – for instance the laboratory – can function as protected places as well. In these cases other institutions, material circumstances, and actors do not support the individual's efforts of such a creation of boundaries. In research work the boundary as to how much work is sufficient is weakly defined. "Attitudes towards work" (for example, "the results of my work become better, when I have enough quality time outside work") and the comparison with previous experiences in other jobs ("I work less/more than in my last job") are the only resources the individual can draw on. These aspects therefore become important. They are then the only boundaries against a high workload.

But there is also another story to tell about other participants of this study. As we have seen, in some cases media even becomes even the determining aspect in place making. Then ICTs are experienced as quasi-autonomously imposing boundaries, for instance when the presence of Russian web radio is mentioned as a reason why it is not possible to work at home. In this example, ICTs are restructuring space in terms of the home-work boundary. At the same time bringing Russian radio into the home, this is physically located in Germany, and therefore a de-territorialising aspect belonging to the macro level is involved as well. Particularly those younger participants, singles, which were called "always on" users, generate much more complex and in many cases more permeable secondary boundaries. This involves a heavier influence of a broader range of ICTs, which are experienced as 'just being there', all the time, everywhere. Whether these younger researchers represent a new type of integrator – not only between home and work but also between the local and the global – is difficult to say. They might as well in a later stage of their life "settle down" and adapt to more traditional patterns. We just do not know. What we do know is that they are a minority, and that they – like all the others – manage the lack of residual boundaries by the creation of secondary boundaries.

To sum up, the home remains an important model for the creation of places. If it is stripped of supporting structures it becomes the object of an abstract wish to create at least one place outside work. The more workers are exposed to de-territorialising forces both on the macro and micro level, the more they have a hard time to create this place left to their own devices.

6. “But who cares for scholars anyway?”

Emmanuel Koku and his colleagues conclude their comparison of academic communication online and offline:

“The Internet is providing a technological basis for new forms of spatially dispersed, loosely bounded networks of scholars ... This greater connectivity does not happen automatically. ... But the Internet is available, used often, and used for all kinds of communication by many of the scholars we studied (Koku et al. 2001, 1769).”

All this also holds for the migrant scholars studied here. It is, however, worth asking the question posed by Koku et al., “but who cares for scholars anyway...?”

Koku et al. answered this by saying they touch upon “our interest in our own tribe” as a possible motivation to study scientific communication. But actually – as soon becomes clear – they are interested in scholars as “harbingers of new forms of loosely coupled organisations”. Scholarly networks, they claim, are “windows into a widespread phenomenon: the development of organisations as networks and virtual organisations” (Koku et al. 2001, p.1769). Both approaches, the somewhat over-hastily dismissed “interest in our own tribe”, and possible generalisations can be applied on this report as well.

The former can be rephrased as interest in the creation and transfer of scientific knowledge under conditions of increasing time-space distancing. To prove its impact on universities and research institutes is out of this study’s reach. However, we have observed the desire for (increased) participation in international scholarly networks as one important motive for researchers to migrate. Especially scholars from Eastern Europe describe this participation as an absolute necessity. Particularly in these instances, the absence of a component of knowledge transfer is particularly obvious. The Russian researcher living in Germany might

very well be able to contribute to international science referring to the “Russian way” of doing science, but there is simply no demand for his place-bound expertise. Instead, as presented above, he uses Germany as access point to a global kind of science, which he experiences as dominated by the “West” and the way of doing science there.

This pattern – migration accompanied by the inclusion into transnational networks rather than the transfer of knowledge between regions, countries or institutions – is the predominant phenomenon observed in this study.

In many cases this applies not only for professional knowledge, but also for other domains of everyday life, for instance, when migrant researchers – preferring the English language as most convenient tool “to get the job done” – socialise primarily with other transnational migrants, rather than locals. This study has shown that ICTs are heavily involved in this process. They are part of a flexible mix of a broad variety of media of communication and information, including the old-fashioned letter as well as CNN and online services. Face-to-face encounters are seamlessly woven into this web of social activity, which extends far over the immediate surroundings. The line between different modes of communication is drawn following considerations mostly to do with instrumental benefits above all related to time efficiency (speed, convenience). Only for a narrow set of social relations – family, partner – technically mediated communication is experienced as being principally inappropriate. The usage of ICTs has been routinised throughout the years of daily application. We encounter a particular kind of closure of the discussion what ICTs are and should be good for. With few exceptions (like family, partner) it is based on the individual’s assessment of efficiency above all in terms of time.

Routine on the one hand and deliberation of uses and costs taking place from case to case on the other is not necessarily contradictory. Most interviewees reported avoiding spending time experimenting with those ICTs, which are not yet part of their daily routines. If we compare this group with others characterised by heavy use of ICTs (for example, hackers), this lack of “playing around” marks the most pronounced difference. Even if we suspect that the interviewees of trying to downplay their playful behaviour, the point remains. Experimenting and playing without clear outcome is considered inappropriate use – a waste of precious time. There is a principal openness towards new ICTs though, but only if it

helps to communicate more efficiently. Thus, routine appears as a deliberate and temporary state that enables maximum efficiency. Open rejection of particular ICTs in this group again is related to time. Here the keyword is *control* over time. As presented above, the mobile phone is largely assessed as too intrusive, as interfering with one's ability to juggle tasks and activities to do with all domains of everyday life.

The description of this special kind of *instrumental domestication* of ICTs into migrant researchers' everyday life leads to the question of possible generalisations. Are characteristics of this special group "windows into a widespread phenomenon", as Koku et al. phrase it? We encounter individuals in this study that are in many respects perfect examples of what is meant by *transnational* migration, a phenomenon, which is assumed to be widespread and still spreading. Additionally, they are "heavy users" of ICTs, communicating with friends and colleagues all over the world and accessing websites for a broad variety of purposes on a daily basis. Finally, they can be considered as transnational knowledge workers, representing globalised knowledge production.

With the introduction of the terms, *residual* and *secondary* boundaries in the previous sections a kind of generalisation was proposed, which transcends the instance of migrant researchers explored here. Observations presented above provide evidence for the existence of transnational practices in all domains of their everyday life. Those practices are closely related to different forms of spatial and temporal flexibility present above all in weakly regulated work hours and increased spatial mobility. Thus, migrant researchers lend themselves to a close examination of practices and circumstances that are to do with spatial and temporal flexibility. A set of *residual* boundaries was identified, bounded structures, which follow from fundamental spatial and temporal restrictions regarding for instance collaboration or the material conditions of work. But we also observed practices, which deliberately restrict flexibility, which structure time and space under the condition of far-reaching flexibility. The outcome of these deliberate efforts was called *secondary* boundaries.

The point of departure for this report was the examination of time-space distancing, which is increased through the advent of new ICTs, and its relevance for everyday life. Harvey and Giddens consider improved means of communication and transportation as crucial

characteristics of modernity. Considering the stories told in the some twenty interviews of this study, a passage from the Communist Manifesto appears in a new light:

“Constant revolutionising of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation distinguish the bourgeois epoch from earlier ones. All fixed, fast frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new-formed ones become antiquated before they can ossify.”

Reinforced time-space distancing pursues the dissolving work of modernity, indeed. Migrant researchers, like many other groups, are exposed to increasing spatial and temporal flexibility, which liquefies spatial and temporal structures. The struggle to re-establish control over one’s life is fought at the barricades of residual and secondary boundaries. However, the locale of these “revolutions” and “counterrevolutions” is the everyday life, the unspectacular domain of repetition and routine.

The point made here is that the story of de-territorialisation and re-territorialisation does not necessarily have to assume an ubiquitous space of flow that is violently disrupted by patriarchalism, fundamentalism, and other new forms of identity described by Manuel Castells. The focus on the unspectacular routines of everyday life reveals how transnational migrants silently learn to deal with new spatial and temporal flexibilities applying all different kinds of tools. We are witnessing a new round of time-space distancing, which is enabled by ICTs – among other (social) technologies. The close examination of the daily lives of individuals inhabiting the resulting “networks of flows and obstacles” (Negri/Hardt) neither gives cause to assume a fundamental historical shift taking place, nor does it justify the assumption that everything remains the same. Many of the topics emerging from this study’s interviews are well-known themes of social science: communication technologies, the home, the family, and the conditions at work. However, within an everyday life that is adapted to the forces of increased de- and re-territorialisation their meaning changes. Some aspects loose importance, some become more evident. The home is more than ever the threatened sanctuary of the individual, the family becomes the only domain, which is normatively excluded from technically mediated communication whenever this is possible (and often it is not), and the workload determines the professional well-being of the worker on an unprecedented scale. If this report has succeeded in drawing attention to these kinds

of inconspicuous changes then it has achieved its goal.

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Appendix 1: EMTEL Deliverables

Final Deliverables

- Brants, K. and Frissen, V. (2003) 'Inclusion and Exclusion in the Information Society', University of Amsterdam (ASCoR) and TNO Strategy, Technology and Policy.
- Pichault, F. and Durieux, D. (2003) 'The Information Society in Europe: Methods and Methodologies', LENTIC, University of Liege and ASCoR, University of Amsterdam.
- Preston, P. (2003) 'ICTs in Everyday Life: Public Policy Implications for Europe's Way to the Information Society'.
- Punie, Y., Bogdanowicz, M., Berg, Anne-Jorunn., Pauwels C. and Burgelman, J-C. 'Living and Working in the Information Society: Quality of Life in a digital world', IPTS-JRC, European Commission, Sevilla; Centre for Technology & Society, Norwegian University of Science and Technology, Trondheim; SMIT, Free University of Brussels
- Silverstone, R. (2003) 'Media and Technology in the Everyday Life of European Societies', Media@lse, London School of Economics and Political Science.

Key Deliverables

- Berker, T. (2003) 'Boundaries in a space of flows: the case of migrant researchers' use of ICTs', NTNU, University of Trondheim.
- Cammaerts, B. and Van Audenhove, L. (2003) 'ICT usage among transnational social movements in the networked society', ASCoR/TNO, University of Amsterdam.
- Durieux, D. (2003) 'ICT and social inclusion in the everyday life of less abled people', LENTIC, University of Liege and ASCoR, University of Amsterdam.
- Georgiou, M. (2003) 'Mapping diasporic media across the EU; addressing cultural exclusion', Media@lse, London School of Economics and Political Science.
- Hartmann, M. (2003) 'The Web Generation: the (de)construction of users, morals and consumption', SMIT-VUB, Free University of Brussels.
- Punie, Y. (2003) 'A social and technological view of Ambient Intelligence in everyday life', IPTS (JCR-EC), Seville.
- Ward, K. (2003) 'An ethnographic study of internet consumption in Ireland: between domesticity and public participation', COMTEC, Dublin City University.