Technologically-mediated Nomadicty in Academic Settings: $Tm-N$ as a Dynamic and Emergent Process

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ABSTRACT

This thesis provides a detailed account of the nomadic lives of a cohort of knowledge workers and explores the ways in which they are mediated by computer technologies. Although increasing attention has been paid to the wide range of their practices and related phenomena, which I term Technologically-mediated Nomadity (Tm-N), in the past few years little has been said about how this way of engaging in work at multiple locations happens to people and is integrated in their work-life.

Tm-N is herein discussed as the process through which the workplace is mobilised to an assortment of locations so that productive activities can be accomplished from these locations, often with the help of computer technologies. It is argued here that the relationship between Tm-N and the factors that lead to it are central to understanding why this approach to work-life is becoming increasingly common in contemporary society – especially among workers who hold knowledge-based positions. An understanding of this relationship gives further insights into the role of computer technologies in this scenario.

The thesis focuses on academics developing work in and across several locations as the flexibility of many of their work activities means that they can be performed at home, in the office, in cafés, restaurants, airports, airplanes, to name but a few locations. This potential "lack of a stable and fixed location" where work can be carried out characterises them as instances of T-Nomads (Tech Nomads), who are understood here as people who do Tm-N.

This is an ethnographically-informed study, i.e. methods based on direct observation and in-depth interviews were used to collect data for the research. The fieldwork data suggest that Tm-N is a complex phenomenon showing that it can be understood as a process that emerges from people's engagement with an ecology of practices, involving a dialogue between human bodies and technologies as work gets accomplished in and across different sites.

Empirical evidence shows that Tm-N should be seen as dynamic and emergent; it is reconfigured according to the ways in which people think of their work-life, strategise about it and react in situations where tasks cannot be accomplished as planned. Furthermore, the findings point towards the existence of a spectrum of factors driving Tm-N that ranges from choice, through opportunity to obligation. Finally, the findings suggest that Tm-N should not be regarded as a process to do only with work, but as encompassing practices that often blur the boundaries between the professional and the personal spheres of people’s lives.
DECLARATION

Technologically-mediated Nomadity in Academic Settings: Tm-N as a Dynamic and Emergent Process

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This thesis is presented as fulfilment of the requirements for the degree of Doctor of Philosophy, at the University of Limerick, Dept. of Computer Science and Information Systems, Faculty of Science and Engineering. It is entirely my own work and has not been submitted to any other University or higher education institution, or for any other academic award in this University. Where use has been made of the work of other people, it has been fully acknowledged and referenced.

Signed: Aparecido Fabiano Pinatti de Carvalho
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The paths to a PhD are never straightforward; they are demanding and without the help of a wide range of people it would be impossible to walk the walk. I am grateful to God, above all, for placing before me so many extraordinary people, who have always been ready to lend me a helping hand and assist me in carrying the burden. Therefore, I would like to use this space to thank all the people who have been part of this story. In particular, I would like to mention a few individuals – as it would be impossible to directly address everybody who has supported me throughout this work in such a short space – and express my sincere gratitude towards them.

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1 INTRODUCTION

Research Context

Over the past few years increasing attention has been paid to technologically-mediated nomadic work practices\(^1\) and associated issues, such as the development of computer technologies to support them and those background activities, also called *mobilisation work* (Perry and Brodie 2006), that are encompassed in their accomplishment. Studies such as those presented by Kammamas *et al.* (2003), Cousins and Robey (2005), Ciolfi *et al.* (2005), Bean and Eisenberg (2006), Bogdan *et al.* (2006), Bartolucci (2007), Rossitto *et al.* (2007), Mark and Su (2010), among others, explore some of these issues and investigate the challenges faced by people whose jobs may allow or demand them to achieve their productive activities at

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1 For a discussion on how term *practice* is interpreted and used throughout this thesis, please refer to section 2.4.2.1 of Chapter 2.
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different sites. Notwithstanding the growing interest in the matter, relatively few researchers have directly addressed it in-depth.

Therefore, this thesis sets out to explore the lives of people who engage in work in and across several locations, using for that purpose a wide range of technological devices and services to mediate the accomplishment of their productive activities from those locations. Based on empirical evidence, I argue that the accomplishment of work at multiple sites emerges as a dynamic process in the lives of people whose jobs allow or demand some flexibility as to when and where work assignments should be carried out. Drawing on empirical data collected through ethnographically-informed fieldwork conducted purposely for this research, I propose that this process unfolds through an ecology of practices blurring the boundaries between the work and non-work dimensions of life, as people go on to simultaneously deal with different aspects of them.

In better understanding the issues behind the aforementioned process, I aim to contribute towards advancing the scholarship on the matter, contributing to fields of research that are particularly interested in researching and understanding work practices, technology mediation and the articulation of social relationships within work settings, such as, for example, Computer Supported Cooperative Work (CSCW) (Bannon and Schmidt 1991; Plowman et al. 1995), Information Systems (Lyytinen and Yoo 2002b; Sørensen 2011) and Organisational Studies (Chen and Corritore 2005; Bean and Eisenberg 2006).

Inspired by a range of past and current research (Perry et al. 2001; Normark et al. 2005; Bean and Eisenberg 2006; Bogdan et al. 2007; Su and Mark 2008; Rossitto

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2 For an introduction on the dynamic and emergent aspects of Tm-N, please refer to section 2.4.3 of Chapter 2.

3 For a discussion on the notion of ecology of practices used for the thesis, please refer to section 2.4.2 of Chapter 2.

4 The term technology is used throughout this thesis to refer to computer technologies in general. As Thurlow et al. (2004) highlight, the term may refer to material (i.e. devices like laptops, printers, smart phones, etc.), immaterial (i.e. software applications like word processors, digital calendars, Internet protocols, etc.) and hybrid items (i.e. methods operating across technological infrastructures that encompass both material and immaterial resources – e.g. e-mail technology, a method to exchange digital messages over the Internet, a computer network infrastructure composed of computer devices communicating with each other by using different protocols). It is worth pointing out that, within CSCW literature, a further and finer distinction has been made in relation to technology and technological infrastructure (Star and Ruhleder 1994). While recognising the subtle differentiations that could be made of “technology” as an umbrella term, I will not delve into the concept of infrastructure in this thesis.
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2009), I herein refer to the process underlining the accomplishment of work activities in and across different locations as Tm-N (Technologically-mediated Nomadity).

Tm-N is usually referred to in the literature simply as “nomadicity” or as “nomadic work” – the last term visibly associating the matter with a work condition. Indeed Tm-N is usually regarded as a work strategy (see section 2.3.2 of Chapter 2) that is used by people as they engage in work at distinct sites, according to the availability of the resources that are necessary for the accomplishment of their activities. This notion is slightly different from that of nomadism, which encompasses the mobility of the complete household to new locations and permanency in a site for relatively long periods of time (Salzman 2004). Also, the nature of resources sought in nomadism is different from those sought in Tm-N: traditional nomads like those from pastoral tribes move to new locations in search for water for their crops or pastures for their herds, whilst T-Nomads are constantly looking for space, time, tools, network connection, information and other people (Kleinrock 2001; Bogdan et al. 2006; Mark and Su 2010). Nonetheless, some similarities can be noticed between the strategy of moving the household and that of “moving the workplace”5 to new locations so that productive activities can be achieved (Su and Mark 2008).

Despite the recurrent use of the terms “nomadicity” and “nomadic work” in the literature to refer to the subject of this study, I decided to apply a different term to it for two reasons. Firstly, I could verify throughout the process of this research that the terms nomadicity/nomad are frequently associated with nomadism. It was a regular occurrence for me to be questioned whether I was talking about pastoralist nomads and whether I was claiming that people from my target group would move for the same reasons that pastoral nomads would. Therefore I found that the use of the term nomadicity proved to be confusing.

Secondly, I decided to avoid the use of the terms nomadic work/workers because, as mentioned above, one of my claims is that Tm-N goes beyond the notion of a work condition. I argue that Tm-N permeates both the work and non-work

5 By mobility of the workplace I mean that T-Nomads bring with them resources such as printouts, laptops, mobile phones and other sorts of resources that they use for setting up temporary workplaces and carrying out their work
dimensions of people’s lives. Therefore, I decided to use \textit{Tm-N} and \textit{T-Nomads} to refer respectively to: (1) the technologically-mediated process of achieving work in and across different locations and (2) people who regularly engage in this process.

It is necessary for the comprehension of this thesis to be totally clear, from the beginning, about what the notion of \textit{Tm-N} herein investigated is and what it is not. To start with, \textit{Tm-N} is \textbf{not} a specific type of work. So, in the context of this thesis, it would not make sense to ask what work can and what work cannot be regarded as \textit{Tm-N}. It is important to note that, for this thesis, \textit{Tm-N} is interpreted as a \textit{process through which workplace resources are mobilised and work gets accomplished in different sites}, i.e. it refers to an approach to work and life and it can be observed, for instance, when office workers move to conference rooms to engage in meetings, or when they use their Smartphones to check and reply to work-related emails whilst they sit in a hospital waiting room.

Nevertheless, it makes perfect sense to ask what types of work could be approached through \textit{Tm-N} and what could not. In terms of this last question, the only types of work that cannot be approached through \textit{Tm-N} are those tied to a \textit{single} location, like the work of a production line in a factory (Makimoto and Manners 1997), or the sales work that is carried out in a particular store. Other than that, people can approach any type of work through \textit{Tm-N}. This includes both \textit{flexible work}, that can be performed on an anytime/anywhere basis, and what I term “\textit{inherently multilocated}” work, that demands workers to move to different locations and accomplish their work from there. Example of the former is the student collaborative group work investigated by Bogdan \textit{et al.} (2006), in which students had the option to decide where they would meet and choose the locations for work strategically. An instance of the latter is the work of sales representatives at building sites addressed by Bartolucci (2007), in which the sales representatives had to go to construction sites in order to take measurements for the products they were selling – in that case they could not choose to do the measurements from another place, but the building site.

Drawing on my research findings, I argue that there is a spectrum\textsuperscript{6} of factors that motivate people to engage in \textit{Tm-N}\textsuperscript{7}. This spectrum ranges from \textit{choice}, which

\textsuperscript{6} For a quick introduction on the \textit{Tm-N} Spectrum formalised in this work, please refer to section 2.4.1 of Chapter 2
is directly related to the flexible work category previously noted, to obligation, which arises in inherently multilocated work. I elaborate on the components of this spectrum in Chapter 4, illustrating each of them with empirical evidence collected in the fieldwork carried out for this research.

Another relevant aspect of Tm-N as used in this thesis relates to the types of movements involved. Some authors associate Tm-N with long distance travelling (Perry et al. 2001; Su and Mark 2008). Others (Kleinrock 1996; Lilischkis 2003; Bogdan et al. 2006; Rossitto et al. 2007) connect it with different types of movements according to the distance between the locations where work is accomplished. Thus, these types of movement may refer to: local mobility, i.e. moving to different rooms in a building or to different buildings in a local area (e.g. a university campus); short distance travelling as, for example, when workers commute from home to their offices and vice versa; or long distance travelling, for instance when they have to travel to other cities or countries; this thesis adopts this latter perspective, i.e. Tm-N is associated here with all the different types of movements mentioned above. It is worth drawing attention to the fact that, although different practices from the Tm-N ecology may be required for Tm-N involving one or more of the different types of movements mentioned above, the ecology of practices from which Tm-N emerges remains the same, as it is composed of a mix of different practices that are put into use, according to the context and the circumstances, as will be discussed in Chapter 2.

In terms of my focus, throughout this research, I strive to answer three main questions that concern: (i) the status of Tm-N as a process of T-Nomads’ work-life that happens as they engage in work in various locations; (ii) the impacts of technologies upon this process; and (iii) issues that may arise from engaging in Tm-N, e.g. issues regarding the use of technology to work in different locations or the impacts that doing so may have on work-life balance. The research questions of this study are presented in the next section of this Chapter, which addresses the research context for the thesis’ development, introduces the cohort of the study, and presents the “Nomadic Work/Life in the Knowledge Economy” project within

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7 By ‘engage in Tm-N’ I mean to engage in practices that result in the mobilisation of the workplace to different locations and the accomplishment of work in these locations
which this doctoral research was conducted. Following this, section 1.2 addresses the motivations for this research, pointing to open issues on Tm-N; section 1.3 introduces its contributions to the scholarship on the matter; finally, section 1.4 presents the overall outline for the thesis.

1.1 THE CONTEXT OF THIS RESEARCH: INVESTIGATING Tm-N IN ACADEMIC SETTINGS

As previously mentioned, this research sets out to further investigate Tm-N\(^8\) and its implications in people’s lives. In order to accomplish this, fieldwork was conducted with academics as the cohort of the research. Interwoven with the fieldwork, in-depth analysis of the data was performed to answer the set of research questions established for the study.

Both the research questions and the justification for adopting academics as the target group of the investigation are presented in the following.

1.1.1 Research Questions

The research questions that this study strives to answer are:

1) How is nomadicty, or what I term Technologically-mediated Nomadicty (Tm-N), evident in the work-life of academics?

2) In what ways do computer technologies affect this process?

3) What issues arise from engaging in Tm-N?

These questions arose from empirical gaps identified in the literature by the review of a large body of research on the subject matter conducted in earlier stages of the investigation. These questions led to the development of the Tm-N model

\(^8\) It is *important to note* that this thesis uses the term Tm-N to refer to what is called “nomadicty” or “nomadic work” in the body of literature reviewed, as previously explained in this Chapter. Despite the use of a different term, the subject matter of this investigation has *already been identified* in the literature; this research advances the understanding on the topic, addresses open issues associated with it, and elaborates a *new perspective* on it.
presented in the thesis which is based on and informed by findings from an analysis of the empirical data collected for this research.

The first research question has to do with the notion of Tm-N and with how it can be observed in the way that academics approach their work-life. It seeks information on the types of work activities that academics currently develop, on the extent to which their activities are flexible in terms of space and time, on how it translates in the ways they approach work and life and on how they negotiate their engagement in Tm-N. This question is motivated by an empirical gap found in the literature resulting from the usual focus given to research studies on the matter, which tends to look at Tm-N from the point of view of a work condition, isolating it from life matters, as will be discussed in section 1.2 ahead. Therefore, this research seeks to understand how Tm-N is an integral part of the work-life of the members of the investigated cohort, attempting to further understand the reasons why this approach to work and life is becoming progressively more common among knowledge workers.

As for the second question, it addresses issues concerning the use of different computer technologies by academics to handle the nomadic aspects of their lives, exploring how technologies impact their Tm-N, seeking insights into new aspects of technological mediation that may improve the support for it, and aiming at providing the design community with information that may inspire the development of new and innovative technological artefacts and services, or the improvement of existing ones to better suit T-Nomads' needs. The motivation for this question lies in the fact that even though a large body of research exists investigating the design of technologies for T-Nomads, it does not take account of Tm-N as a result of T-Nomads' work-life practices. I judged relevant to have this question in mind during the investigation and watch for opportunities for new design directions, especially because computer technologies play a central role in enabling Tm-N (Makimoto and Manners 1997; Sørensen 2011) and supporting the integration of work-life matters (Rakow and Navarro 1993; Salazar 2001; Gluesing et al. 2008).

Finally, the third question directs an examination of the issues that may arise from engaging in Tm-N, with special focus on the trade-offs that may be involved in
the blurring of work-life boundaries and that have not been satisfactorily addressed in the literature (Meerwarth et al. 2008a; Sørensen et al. 2008). Through this question I ask what people think of the idea of being able to work anytime/anywhere and how they think this would add to or detract from their work-life. Although many researchers have addressed the blurring of work-life boundaries caused or amplified by computer technologies (Salazar 2001; Chesley 2005; Prasopoulou et al. 2006; Golden and Geisler 2007; Duxbury and Smart 2011), its relationship to Tm-N is often neglected – a glaring exception is the accounts for nomadic lives available in Meerwarth et al. (2008a). Thus this research aims to advance knowledge on the matter as well as motivate future research to engage in closely investigating this relationship as a relevant aspect for comprehending Tm-N.

1.1.2 Justification for the Research Cohort: Academics as Instances of T-Nomads

The choice of academics as the cohort for this research was chiefly motivated by the fact that they may be considered emblematic T-Nomads of the “Knowledge Economy.” As a component study of the “Nomadic Work/Life in the Knowledge Economy” Project, introduced in section 1.1.3, the plan was to explore Tm-N among high-skilled workers holding knowledge-based positions, so that I could make a contribution towards the project that funded the research. Given that academics are by definition knowledge workers, for they work on the production and dissemination of knowledge (Blackler 1995; Davis 2002; Reinhardt et al. 2011), I believed that exploring their lives would allow me to contribute to the aforementioned project.

Furthermore, academics can be considered emblematic T-Nomads because they are constantly developing their work activities in and across different locations (Salazar 2001). For example, they are always moving from classroom to classroom on campus or from campus to campus in a city to deliver lectures or to perform

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9 In addition to the justifications I present throughout this section for selecting academics as the cohort of my study, the fact that I am myself interested in the academic world as a field for research, having earlier developed some research within this environment (Anacleto et al. 2008; de Carvalho et al. 2008; de Carvalho et al. 2009) also contributed towards choosing academics as the informants of my research.
Introduction • The Context of this Research: Investigating Tm-N in Academic Settings

research. Sometimes they even need to move from city to city or country to country to visit and collaborate with different partners or to attend conferences. In addition, their workplace moves with them, which is a constituent criterion of Tm-N.

Additionally, computer technology is becoming more and more pervasive in their lives (Goscinski and Silcock 2003; Junior and Coutinho 2008). For instance, nowadays lecture halls are commonly provided with several technological resources such as computers, projectors, Internet connection, among others. In addition, as for most of people who are part of a knowledge economy, they are surrounded by technology in their offices and homes. As a consequence, e-mail tools, instant messengers and VoIP tools such as Skype have been used for discussing research and establish new partnerships. These are only a few examples of the presence of technology in academics’ lives. Since this research is concerned with issues regarding the mediational role of computer technologies in Tm-N, choosing people who used technologies on a daily basis for the accomplishment of their productive activities was purposeful and undoubtedly relevant.

Moreover, so far no research study has directly addressed the nomadic aspect of the work-life of academics. A literature search reveals a large body of research focusing on the study of the academic profession (Clark 1973; Clark 1997; Boud 1999; Fulton and Holland 2001; Altbach 2003; Rhoades 2007; Braxton 2011; Boud and Brew 2012). However, these studies commonly focus on issues such as “power and control in higher education; bureaucracy and rationalization; and normative and cultural dimensions in higher education” (Rhoades 2007, p. 114), or on the structure of the academic profession, its core functions (Braxton 2011) and issues of academic development (Braxton 2011; Boud and Brew 2012); this scholarship does not investigate the daily work practices of academics – a noticeable exception being the study by Lea and Stierer (2009), which addresses lecturers’ everyday writing activity and analyses it as a professional practice. Therefore, it can be argued that understandings of the work-life of academics and their everyday practices is still limited and insufficient (Rhoades 2007).

The study whose purpose is closest to this investigation is conducted by Salazar (2001), who presents an “interview-based field study of university professors who
used computers to work at home” (p. 164). The major difference between that study and my investigation is that Salazar was not actually interested in the nomadic aspect of the lives of academics, but in comprehending the process used for building work-life boundaries and negotiating the time and space needed to accomplish work at home. As such, she did not tackle the accomplishment of work in locations other than home and focused her investigation on understanding the reasons that would lead people to engage in work at home.

Although Salazar (2001) taps into several fundamental issues of Tm-N that are of particular interest to my research – such as motivational aspects influencing people to choose one location rather than another to engage in work (in her case, home versus the office) and the use of computer technologies for the accomplishment of work and the access to resources – it does not actually analyse how doing Tm-N is part of the work-lives of academics, the different locations they may have to engage in work and how the use of computer technologies outside the home affects these processes. This research proposes to answer these questions.

To conclude, it is of fundamental importance to clarify that, although this thesis contributes to understanding academic work-life, it is not a thesis on the characteristics of the work-life of academics; this is a thesis on Tm-N that purposively uses academic settings to investigate the subject.

1.1.3 The Nomadic Work/Life in the Knowledge Economy Project

The study presented in this thesis was conducted as a component study of a larger research project entitled “Nomadic Work/Life in the Knowledge Economy” (NWL). This was a four-year (2008-2012) Government of Ireland funded research project concerning mobility, technology, gender and work developed at the University of Limerick (UL). The project was a joint initiative between the Department of Sociology and the Department of Computer Science and Information Systems (CSIS), funded by the Irish Social Science Platform (ISSP) via the Institute for the Study of Knowledge in Society (ISKS) and had as its main goals: (1) investigating technologically-mediated nomadic work practices in the Limerick region and the impacts of those practices in people’s lives; and (2) contributing towards the advancement of the methodologies that can be employed to do so.
Introduction • Motivation for This Investigation: The Need for Advancing Research on Tm-N

In regard to the first goal, across the lifespan of NWL, three related fieldwork projects were established and pursued. The first addressed issues on mobility and flexibility in the work practices of high-tech professionals in the National Technology Park; the second fieldwork project is the one reported in this thesis, regarding Tm-N in academic settings. The third and last fieldwork project involved a research study of how mobile ways of working and living may lead to mobile ways of doing gender as manifest amongst self-employed creative workers in Limerick.

A further goal of NWL project team was to organise five International Seminars Series addressing debates relevant to these topics. As a result of those seminars, a special issue of the Mobilities Journal (D’Andrea et al. 2011) addressing methodological challenges and innovations in mobilities research has been published, bringing together the papers from the first international seminar series. Two other special issues are on their way and the research team of the project is planning to jointly write a book based on the overall project findings.

1.2 Motivation for This Investigation: The Need for Advancing Research on Tm-N

A possible reason for the growing interest in Tm-N may be attributed to the rise of the so-called “knowledge”, “smart”, or “new” economy where knowledge-based occupations are extremely common and new forms of work, which may encompass non-standard forms of employment and outsourcing such as part-time, temporary and fixed-term employment, temporary agency work, self-employment and distance and teleworking, are available (Castells 2000; Webster 2006). One of the key characteristics of these new forms of work is the potential for nomadic work practices, given the flexible nature of the work activities that can easily be approached nomadically. Workers in this “new” economy who hold knowledge-based positions mainly deal with the use and/or the production of something abstract, i.e. knowledge, which can easily be translated into information, digitally

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10 This resulted in a fieldwork report available on the project’s website, which can be reached at the online address http://nwl.ul.ie (Last accessed on 15th of Apr 2013 at 19:00 GMT).
represented and, consequentially, taken to or accessed from different locations via networked technologies. Thus, work activities can be easily detached from the office premises and can be performed anytime or anywhere that suits the workers’ or the employers’ needs (Davis 2002; Powel and Snellman 2004).

In addition, the development of a widespread technological apparatus has been contributing to facilitate the mobilisation of different resources that are necessary for the accomplishment of work at locations where other resources such as time or collaborators are available (Kleinrock 1996; Lyytinen and Yoo 2002b). This has enabled knowledge workers to choose whether to address their work-life nomadically or not (Makimoto and Manners 1997). According to Makimoto and Manners (1997), cheap hardware, easy access to information and large bandwidth to communications links are the three key enablers to Tm-N. Among the facilities provided by computer technologies for the mobilisation of the workplace there are the possibility of packing and bringing along large amount of data, including work documents and technological resources, the alternative of accessing them through the Internet and the possibility of getting in contact with partners, clients or any human resource that may be necessary for conducting a work task (Lilischkis 2003).

Taking into account these two factors, there is an expectation that Tm-N will become gradually more common (Perry et al. 2001; Su and Mark 2008). This motives the search for an accurate understanding of the matter, especially if we consider that such understanding is relevant to fields of research such as Computer Science (including its subfields like Ubiquitous Computing, Human-Computer Interaction, Interaction Design and Computer-Supported Cooperative Work), Organisational Studies and even Architecture, as discussed throughout Chapter 2.

Despite the increasing number of studies on the topic, there remain a number of unexplored issues: some are to do with the notion of Tm-N among different groups of high-skilled workers; others relate to the mediational role that computer technologies can play in Tm-N, and emergent evidence of increased blurring of work and life boundaries is another gap that will be further explored in the data chapters of this thesis.
Research on Tm-N has primarily focused on: (i) how people mobilise their work; (ii) where they engage with it; (iii) what impact can be imprinted upon organisations that decide to move towards a nomadic approach to business (i.e. contracting a nomadic workforce whose members would be allowed to work from wherever they would like to); (iv) how technologies may support workers to get work done in and across several locations; and (v) what aspects should be considered for their design (Kleinrock 1996; La Porta et al. 1996; Breure and van Meel 2003; Kammus et al. 2003; Chen and Corritore 2005; Chen and Nath 2005; Ciolfi et al. 2005; Cousins and Robey 2005; Bogdan et al. 2006; Bartolucci 2007; Su and Mark 2008).

Issues arising from these studies mainly concern place-making activities, management of and accountability for work activities, anytime/anywhere access to resources, and the development of technologies which can support people to handle the nomadic aspect of their lives (de Carvalho et al. 2011). The findings from these studies are undeniably relevant for understanding how nomadic interactions take place and how technologies mediate them; however, two major unexplored issues are: how Tm-N configures a process resulting from the way that T-Nomads’ deal with both work and non-work life matters; and how Tm-N might contribute to a blurring of the boundaries between professional and personal spheres of life.

With regard to the first issue, my analysis of the empirical data I collected for this research found strong evidence pointing towards the existence of a spectrum of motivational forces leading to Tm-N that ranges from choice, i.e. consciously choosing and moving to specific locations to engage in work according to personal preferences, opportunity, i.e. engaging in work as some resources are unexpectedly made available, to obligation, i.e. moving to specific sites where the needed resources are available or because a superior tells one to do so (Beasley and Lomodavid 2000; Salazar 2001; Felstead et al. 2002; Towers et al. 2006). Notwithstanding the strong indicators pointing towards the existence of this spectrum of factors, the literature tends to focus on the two extremes of it: the one associated with choice, i.e. when the workers can effectively choose when and where to work, and the one associated with obligation, which refers to situations in which workers are forced to move to other locations because of specific resources.
that can only be found there, thus neglecting what I have identified in this study as the nuances of a spectrum of \textit{Tm-N}.

Concerning the second issue mentioned above, since people may sometimes choose to work in locations that please them, or at times that suit them best, work can easily be brought home and home can easily be brought to work. Indeed, increasing attention is being paid to \textit{changes in work practices}, that point to a shift from time and space structured work practices (often 9AM-5PM in the workplace/office), clearly demarcated between paid and non-paid work-life, to more flexible and multi-located nomadic work practices that \textit{blur the boundaries} between work and life (Churchill and Munro 2001; Harrison \textit{et al.} 2004; Chesley 2005; Cousins and Robey 2005; Harold 2006; Bogdan \textit{et al.} 2007; Ciolfi 2008; Harper \textit{et al.} 2008; Hislop and Axtell 2009). Some of these studies explore the negative effects that such a blurring may cause; however, they do not investigate how people become seduced into engaging in practices that blur these boundaries and are prejudicial for their work-life balance. Neither do they discuss the extent to which workers wish these boundaries to be blurred or resist such blurring. I argue that understanding the reasons people give for engaging in \textit{Tm-N} enables a more comprehensive understanding of this process.

Therefore, I argue that further research is needed to advance understanding of how \textit{Tm-N} works in practice and its implications for people’s everyday life, especially if there is an intention to design something for people who engage in it, be it technologies, work environments, policies or anything else. Hence, I felt highly motivated to design and develop this research study in an attempt to advance the understanding on \textit{Tm-N} and associated issues.

\subsection*{1.3 Contributions of the Thesis}

This thesis contributes to the scholarship on \textit{Tm-N} by providing a detailed account of: how \textit{Tm-N} becomes evident from the everyday work-life of academics and how \textit{Tm-N} unfolds as they go on to accomplish their work at different sites. Particularly this thesis looks at \textit{Tm-N} from the point of view of conceptualising it as a process associated with a spectrum of motivational forces. Thus, the main contributions of this thesis are:
i. The portrayal of a new perspective on Tm-N, which describes it as an emergent and dynamic process that is inherently mediated by computer technologies, and that unfolds through an ecology of practices that may blur the distinctions between the work and non-work dimensions of life, rather than considering it as a matter restricted to work;

ii. The identification of a spectrum of motivational forces that lead people to engage in the process in contrast with much literature which usually associates it with the need to move to certain locations because of resources that can be found only there;

iii. The provision of an account of technological paradoxes in terms of mediating T-Nomads' accomplishment of work in diverse locations and intensifying the blurring of their work-life boundaries.

Other contributions include: (a) the introduction of the terms Tm-N and T-Nomads to refer to the subject of the study; and (b) the elaboration of a typology that groups research studies on Tm-N by focus, which is addressed in the Chapter 2.

I argue that, by means of these contributions, scholarship on this topic is advanced and a deeper understanding of issues encompassing Tm-N is achieved in this thesis. Furthermore, although this research does not go so far as to elaborate design concerns for new computer technologies, it provides relevant material for practitioners from several subfields of Computer Sciences such as CSCW, Human-Computer Interaction (HCI), Interaction Design (IxD) and Ubiquitous Computing (Ubicomp), so that they can work on the elaboration of new design directions for the development of new and innovative technologies which may be used by Tm-Nomads.

It is worth pointing out that, although this research addresses issues concerning mobility of people and objects, overlapping considerably with several of the aspects explored within the ‘Mobilities paradigm’ from Sociology (Hannan et al. 2006; Sheller and Urry 2006; Urry 2007), it does not aim to contribute specifically to that body of research. Whilst research on Mobilities focuses on a wide range of aspects of social life, including migration, transport, and surveillance among others, my research is focused on the process comprising the mobilisation
of resources to different locations from where work is accomplished and the impacts of such a process in people's everyday life practices. This is the reason why I have focused my literature review on specific studies from the human-centred computing fields of research that from my point of view speak directly to my interests.

1.4 Thesis Outline

This thesis is composed of seven chapters, including this introduction. Chapter 2 extends the literature review presented in this introductory chapter, focusing on the conceptualisation of the notion of Tm-N and on the different frames that have been used in the literature to analyse it. The chapter starts with a discussion of the relationships between the notion of mobility and Tm-N, presenting the former as a relevant aspect of the latter but arguing that the two of them should not be used interchangeably, even though the literature usually does so. The chapter follows with a review of different perspectives from the literature on Tm-N and introduces the new perspective on the matter that is the main contribution of this thesis, namely that of "a dynamic and emergent process driven by a spectrum of motivational forces".

Chapter 3 goes on to present the ethnographically-informed approach adopted in this study and discusses the suitability of such an approach to investigate the research matter. It describes the design of the empirical work carried out and justifies the decisions taken as the fieldwork was elaborated. The research is situated within the qualitative paradigm, presenting the ontological and epistemological assumptions used for the generation of the theoretical explanations presented throughout the thesis. The chapter also briefly presents the pilot study performed prior to the main fieldwork, discusses some challenges faced during the development of the latter, and provides a reflection on the limitations of the methodology used for this research and the body of data generated.

Chapter 4, 5 and 6 are empirical data chapters. Throughout these chapters the answers to the research questions are constructed and empirical data are presented to support them. In Chapter 4 the emergent aspect of Tm-N is addressed
whilst the spectrum of motivational forces driving the process is discussed. The chapter addresses how choice, opportunity and obligation may act as motivations for workers to engage in doing $Tm-N$ and discusses how collaborative work may impact upon the ways in which the process unfolds. It brings to the fore evidence that personal motivations and preferences are arising as a reason as strong as meeting face-to-face when it comes to engaging in $Tm-N$ \textsuperscript{11}.

Chapter 5 discusses how $Tm-N$ can be seen as a dynamic process emerging from people’s engagement in an ecology of practices that has to do with the mobility of the workplace to different locations and the accomplishment of work tasks from these locations. It goes on to discuss how $Tm-N$ is a mediated process and how its mediation is achieved through a dialogue between human bodies and technologies that work together in the accomplishment of work in different sites. The chapter also raises a discussion on the two opposite views on the use of computer technologies to support the development of the nomadic process: how the use of technologies may be paradoxical in that technologies can be a help or a hindrance to $T$-Nomads depending on the situation.

Following the discussion on the dynamic aspect of $Tm-N$ and the technological paradoxes involved in it, Chapter 6 introduces $Tm-N$ as something that goes beyond work. The chapter discusses empirical evidence pointing out that $Tm-N$ is a process that may contribute to the blurring of the boundaries between work and non-work dimensions of life, i.e. it is to do with the way people engage in activities from both dimensions simultaneously. It discusses the advantages that engaging in $Tm-N$ may endow people with and poses the question of whether $Tm-N$ should be seen as a tool or a constraint, drawing on the participants’ opinions that being able to work anytime and anywhere grants benefits such as making the most of work and non-work lives. The chapter also briefly discusses the situations in which the participants manifested an interest in clearly demarking the boundaries between work and life and raises questions about the extent to which there is a choice in this regard.

Finally, Chapter 7 presents the conclusions of this study and how the research questions previously presented are addressed in the data chapters by means of the

\textsuperscript{11} This is an intriguing finding given that research on the topic usually departs from the premise that face-to-face is the main motivation for people to engage with nomadicity.
presentation of empirical evidence gathered during this investigation and analysis of these data in relation to elucidating the process of $Tm-N$. 
2 CONCEPTUALISING TECHNOLOGICALLY-MEDIATED NOMADICITY

Different Perspectives

This chapter presents and critiques some of the different perspectives on \( Tm-N \) within the fields of Computer Supported Cooperative Work (CSCW), Human-Computer Interaction (HCI), Ubiquitous Computing (Ubicomp) and Information Systems (IS). This scholarship speaks directly towards the main goal of this investigation: to further understand \( Tm-N \) and the effects of computer technologies on it. Therefore, although aware of other fields of research that potentially speak with this work (e.g. Mobilities, Organisational Studies, Human Geography, Architecture, to name but a few), I decided to focus my effort towards exploring and elaborating on studies from the four fields of research mentioned above.
However, references to studies from other relevant fields of research are made when they add a significant perspective and contribute to the analysis.

The literature review was conducted (1) to understand how the research communities from these relevant fields discuss the topic, (2) to learn about relevant field studies in this area and particularly (3) to identify open issues that could be further explored. The review seeks, therefore, to establish the grounds for the empirical research presented in subsequent chapters of this thesis, informing the researcher about controversies, inconsistencies and unanswered questions in the literature, thus also contributing to the elaboration of the research questions presented in Chapter 1.

As I will address in further detail in this chapter, the current literature still lacks a debate on issues regarding the workings of Tm-N and on how engaging in it may intensify the blurring of work-life boundaries. Past and current research studies on the topic limit themselves to discussing Tm-N as a matter to do specifically with work, even though sometimes researchers acknowledge that work and home lives of T-Nomads can indeed become considerably blurred (Meerwarth et al. 2008a; Su and Mark 2008).

It is also worth pointing out the difficulties in differentiating between Tm-N and mobility. As Rossitto (2009) notes, current research tends to use these terms interchangeably. However, taking a similar position to Rossitto’s, I argue that it is important to understand mobility as an aspect of Tm-N rather than a synonym for it, in that Tm-N unfolds as people and objects move across different locations, temporary workplaces are configured and work gets accomplished. For this reason, several studies referred to throughout this chapter are interpreted as instances of studies on Tm-N even though they use the term mobile work to describe the research context\(^{12}\). The terms Tm-N and T-Nomads will be consistently used across this thesis even when a cited work adopts the terms mobility, mobile work(er), nomadicity and nomadic work(er).

The remainder of this chapter is organised as follows: section 2.1 frames this investigation with respect to past and current research on Tm-N; section 2.2 examines the different terms found in the literature used to refer to Tm-N and explains why this research uses this term; section 2.3 presents a review on

\(^{12}\) Examples are the studies by Perry et al. (2001) and Goldmacher (2008)
different perspectives on Tm-N found in the literature, addressing the different frames given to the subject and pointing towards open issues; section 2.4 presents a new perspective on the matter which emerged from the investigation of open issues found in the literature conducted in this research; finally, section 2.5 contains a summary of the chapter and some concluding remarks.

2.1 FRAMING THE THESIS WITH RESPECT TO PAST AND CURRENT RESEARCH

Past and current work on Tm-N has addressed a broad range of issues varying according to the field of enquiry within which the research was conducted. For instance, in Ubiquitous Computing and Business Information Systems, researchers usually are interested in developing mobile and pervasive technologies and developing technological affordances that can be translated in specific performance by technology when used in individual and organisational practices (Weiser 1993; Kleinrock 1996; Gorlenko and Merrick 2003; Kietzmann 2008; Sørensen 2011). In turn, HCI researchers are concerned with the usability of portable devices and the development of methods for accurately assessing it (Weiss 2002; Coursaris and Kim 2006; Johansson et al. 2006; Nicolajsen et al. 2007). In CSCW, the focus is directed towards the use of computer technologies to mediate social and collaborative activities in and across different locations and an understanding of how different spaces are inhabited and transformed in places as work gets accomplished, i.e. a concern with issues to do with articulation and mobilisation work as well as with place-making activities (Perry et al. 2001; Ciolfi et al. 2005; Bogdan et al. 2006; Rossitto 2009).

In addition, researchers from a number of other fields have been investigating issues concerning the matters addressed here. For example, researchers from Philosophy, Human Geography and Architecture (e.g. Lefebvre 1991; Duffy et al. 1998; Hubbard and Kitchin 2010) have explored issues relating to physical movement and of the role of space and place in human activities. Other researchers, such those from Organisational and Labour Market studies, have been focusing their attention on new forms of work in the current economy and its impact on the structure of organisations, approaching themes like telework and
shared workspaces, employees sense making in transitioning to a nomadic approach to work, among others (Stanworth 1998; Chen and Corritore 2005; Chen and Nath 2005; Ruiz and Walling 2005; Townsend and Batchelor 2005).

There is also a well established research stream within Sociology known as the Mobilities paradigm (Hannan et al. 2006; Sheller and Urry 2006; Urry 2007; Watts and Urry 2008) which addresses a wide range of aspects associated with the mobility of people and the social implications of such movements. However, although I am aware of the studies developed within these fields, they fall beyond the scope of this research.

Notwithstanding the substantial body of research on the topic, there is still room for investigation. Particularly, it seems that all the studies mentioned throughout this section somehow take for granted how doing Tm-N is an integral part of T-Nomads' lives: the impression is that they try to understand how it unfolds, what resources are necessary for its making and what tools could be developed to support those involved with it, however neglecting to some extent the reasons why people engage with it. It seems that researchers start from the assumption that some particular groups of people are nomadic, so they can investigate how Tm-N unfolds by observing them. This thesis adopts another starting point: whilst it acknowledges that there are some jobs which demand that people move to different locations and accomplish their work tasks from these locations (i.e. the inherent multilocated work discussed in Chapter 1), it highlights that there are also certain types of work that are not strictly nomadic but that allow people to engage in work activities in different locations (i.e. the flexible work addressed in the same Chapter). Hence, this work starts from the assumption that there is a Tm-N spectrum and that reasons behind engaging in Tm-N may vary and may impact upon the way the process unfolds.

Therefore, my research sets out to investigate how Tm-N becomes evident in T-Nomads lives and the implications for their lives. As a study that aims at contributing to human-centred computing fields of research, this investigation is particularly concerned with understanding people as they make use of computer technologies to deal with the nomadic aspect of their lives and with how technologies may impact the process. Chapter 4, 5 and 6 present and discuss the findings regarding these issues emerging from empirical work.
2 Conceptualising Technologically-Mediated Nomadicity • Tm-N and Mobility in the Literature

2.2 Tm-N and Mobility in the Literature

As previously noted, understanding Tm-N is not a trivial task, especially if the several nuances that it involves are taken into consideration. The different definitions of Tm-N found in the literature are proof of that. For instance, Su and Mark (2008) define Tm-N as an extreme form of mobile work that encompasses people being constantly on the move, usually travelling long distances, working wherever they happen to be, and carrying their resources with them so that they can set up temporary workplaces. Rossitto and Eklundh (2007) characterise the concept as a work condition that entails (a) the absence of a stable workplace where work activities can be carried out and (b) the experience of a complex system of physical, temporal and technological discontinuities. Lilischkis (2003) defines it as a type of mobile work that involves people developing their activities in more than two fixed locations, moving from one work location to another from time to time. Bean and Eisenberg (2006) consider Tm-N as a “radical new form of work” that is based on the workers’ mobility both at and away from their company, on paperless operation (i.e. use of digital resources for work) and on integrated technological platforms. Kleinrock (1996) conceptualises it in terms of access to technological resources anytime/anywhere.

In the definitions above, Tm-N is frequently associated with mobility and work at multiple locations. Nevertheless, it seems that researchers who investigate the subject have not yet decided upon a term to refer to it, thus Tm-N and mobility end up being commonly used interchangeably as well as their adjective forms like in nomadic work and mobile work (Rossitto 2009). In addition to these terms, expressions such as “flexible work”, “fluid work” and “mobile telework” (among others) can also be found in the literature (Kleinrock 1996; Daniels et al. 2001; Perry et al. 2001; Kakihara et al. 2002; Bødker et al. 2003; Hislop and Axtell 2007; Meerwarth 2008); all these terms are somehow associated with the same thing: developing work activities in and across several locations besides the “official” workplace (e.g. the office).

In the following, I present my arguments about why it is relevant to make a distinction between the notion of Tm-N and that of mobility. Then I go on to discuss how the notion of pastoral nomadicity can be insightful to understand that
of Tm-N and to provide a brief justification for the use of the term Tm-N to refer to the subject matter of the study.

2.2.1 Making a Distinction between Mobility and Tm-N

Despite the common use of mobility and Tm-N to refer to work conducted in different locations, I argue that it is important to make a distinction between these two terms, especially because it leads to analytical and methodological implications (Rossitto 2009). So it is important to be clear about what each term stands for and how they are interrelated, in order to be able to accurately understand the matter and to advance research on it.

In this thesis, mobility is regarded as the physical movement in between locations. Thus, mobile work here would refer for example to jobs that demand workers to be moving physically constantly to accomplish their work assignments (e.g. drivers, pilots, postmen, and so forth) (Sørensen et al. 2005). On the other hand, Tm-N is used to refer to something that encompasses a complexity that goes beyond the simple movement of people (Bogdan et al. 2006): it spans over the mobility of resources that allow workers to set up their workplaces in different locations and to perform their productive activities. Thus it involves both the movement of people and things but also the work in preparing for such movement and following the movement in creating conditions to engage with work and life activities.

It is worth pointing out that spatial mobility is only one of the dimensions of the notion of mobility. As the literature suggests, mobility can be considered a multi-dimensional notion: Kakihara and Sørensen (2001), for instance, extend the notion of mobility to take account of the cyberspace and the new kinds of mobility that it allows for. They define mobility in terms of three dimensions: spatial, temporal and contextual. The first dimension refers to people’s switching from place to place, either physical or virtual, as remarked by Andriessen and Vartiainen (2006). The second is about temporal aspects of the interaction, i.e. interacting with resources synchronously or asynchronously. Finally, the third dimension concerns the possible different contexts of interaction: for instance, a person can chat to several people through instant messaging about topics related to different contexts, e.g. work, leisure, family, etc. Furthermore, people chatting on the Internet can be
located in different places where the cultural context may be not the same. Thus it can be argued that new technologies allow people to be mobile without moving physically. This understanding can be extended to the concept of Tm-N, taking into consideration that mobility is one of the aspects of Tm-N. Hence, it can be said that Tm-N shares multi-dimensional attributes of mobility\textsuperscript{13}.

In fact, as will be explored in detail in Chapters 5 and 6, Tm-N is directly related to the notion of fluidity discussed by Kakihara et al. (2002). The mobility of the workplace, which is central to Tm-N, happens as a result of the constant negotiations of ongoing fluid interactions in and across different sites where work gets accomplished. However, it is worth pointing out that this thesis accounts not only for the fluidity of work activities but also for varied issues surrounding its accomplishment and its impacts upon the lives of people engaged with it.

2.2.2 Pastoral Nomadism and Tm-N

In pastoral societies, nomadic practices are commonly associated with seeking resources such as water, pastures and so forth, so that nomads can grow their crops or raise their herds. In doing so, nomads constantly move their means of production and the trappings of their livelihood to different locations where these resources can be found and where they can settle and stay as long as the resources remain available (Salzman 2004). In urban societies, nomadic practices are in some ways appropriated and modernised: they do not necessarily involve moving the complete household to new locations, although the mobility of the household may eventually happen (e.g. when senior managers move with their families to new cities or countries where their services are required). These practices become technologically mediated and, instead of the mobility of the household, it is more common to observe the mobility of the workplace (i.e. the tools and resources necessary for carrying out productive activities) to new locations where workers stay for short periods of time and from where they can accomplish work (Bogdan \textit{et al.} 2006; Mark and Su 2010). In a way, Tm-N could be associated with people’s seeking for resources such as space, time, privacy, silence and other people for

\textsuperscript{13} It is of particular importance, though, to note that this thesis focus on the type of Tm-N associated with physical mobility, i.e. physical mobility is a constituent criterion of the matter explored herein.
developing their work. As soon as the necessary resources are found, they set up their temporary workplaces and start developing their productive activities (de Carvalho et al. 2011).

Hence, it could be said that Tm-N goes beyond spatial movements, work on the move or access to technological and informational resources anytime/anywhere. As Rossitto (2009) puts it, it involves the understanding of the mobility of artefacts – also known as micro-mobility (Luff and Heath 1998); the social interactions enabled by being mobile (Ciolfi 2008); the different ways to be in contact with people and to make them aware of one's locations (Perry and Brodie 2006); the spatial, temporal and contextual dimensions of mobility addressed by Kakihara & Sørensen (2001); the spatial, temporal and technological discontinuities that emerge from it (Kakihara et al. 2002); and, finally, the interaction between people, technologies and places and the way that work may shape places and places may shape work (Brown and O'Hara 2003). Moreover, as will be discussed in section 2.4 of this Chapter and will be further elaborated in Chapter 6, it could be said that Tm-N goes beyond work. It comprises to some extent the blurring of work and non-work spheres of people's lives as T-Nomads go on to negotiate and engage in work activities in locations that were traditionally dedicated to social or leisure activities, and to negotiate and engage in private/family or leisure activities in sites traditionally associated with work.

As previously pointed out, several studies using the term mobile work in fact address all the complexities here associated with Tm-N (e.g. Perry et al. 2001; Pica et al. 2004; Perry and Brodie 2006; Aguilera 2008; Goldmacher 2008; Kietzmann 2008). For that reason issues from those studies are treated and referred to throughout this work as issues regarding Tm-N.

2.3 FRAMING Tm-N: DIFFERENT PERSPECTIVES FROM THE LITERATURE

I now move on to analyse some studies that, from my point of view, are related to and resonate with my interests and goals for this investigation. To this end, I developed a strategy to organise my analysis resulting in a typology that I present as one of the secondary contributions of this thesis. I have produced this typology by thoroughly examining the studies that I reviewed and, by delineating it, I am
contributing to clarify research on *Tm-N* in that I identify recurrent elements that are used to orient investigations and analyses into the topic.

When it comes to understanding *Tm-N*, different perspectives may be applied to approach the matter (Rossitto 2009). In the search for a frame for this research, four perspectives became most prominent in the literature as I explored different studies on the subject. These perspectives are to do with a technology-centred, a practice-centred, a place-centred and a work-life boundary-centred approach to define, explore and understand *Tm-N* and the issues surrounding it. These four frames are not mutually exclusive. As can be observed in the following subsections, there are overlaps between them and studies that prioritise one of these views may address issues of the other three.

The following subsections present a review on these frames and point towards open issues stemming from them, which became evident as the empirical data collected for this research were analysed. These issues led to the elaboration of a new perspective on *Tm-N* that I present as the major contribution of this thesis. By elaborating this new perspective I develop a further understanding of the matter and advance the current state of the art on the topic. This perspective is introduced in section 2.4 and is detailed and supported with empirical evidence across the data chapters of the thesis, i.e. Chapters 4, 5 and 6.

### 2.3.1 Technology-centred Frame: *Tm-N* as “System Support”

The technology-centred approach is probably the earliest perspective found in the literature used to frame *Tm-N*. In his seminal paper “Nomadicty: Anytime, Anywhere in a Disconnected World”, Kleinrock (1996) discussed the development of a technological architecture that would allow for anytime/anywhere access to information and technological resources, coining the term *nomadic computing* alluding to all technologies that could enable or empower the mobility of people and of digital artefacts.

Within this frame, *Tm-N* is often defined in terms of computer technologies. For instance, a common definition for *Tm-N* in studies that conform to this perspective is that *Tm-N* is a “system support” needed to provide computing and communication capabilities and services to *T-Nomads* as they move from place to place and engage in work at those places. According to Kleinrock (2001), such a
support must be provided in a way that is “transparent, integrated, convenient and adaptive” (p.42).

2.3.1.1 On the Relationship between the Technology-centred Frame and Ubicomp

The technology-centred perspective on Tm-N is directly related to and somehow a progeny of studies in Ubiquitous Computing, which aim at the development of mobile and pervasive computing technologies to be used in different contexts (Weiser 1993; Makimoto et al. 2001; Lyytinen and Yoo 2002a; Sørensen 2011). Thus, the research agenda of those who adopt this perspective is the development of computer tools and nomadic computing environments to support people who work in and across different locations (see the research commentary by Lyytinen and Yoo 2002b). Researchers who adopt this perspective start from the principle that computer technologies can: offer people location independence; reduce the number of physical artefacts to be carried (and consequently of the weight load associated with it); provide instant information retrieval; allows for swifter data processing and reduce the cost associated with engaging in work in multiple locations (Makimoto and Manners 1997; Kleinrock 2001). They argue that not using computer technologies may cause problems such as non-accessibility, unknown location, limited ability to carry resources, limited access to resources and media breakdowns (Lilischkis 2003). Therefore, studies within this frame usually approach technical issues of connectivity, networked-based applications, context-aware systems, technological and environmental infrastructure, technology pervasiveness, mobile technology use and so forth. Most important, they discuss how these elements may serve the purpose of supporting people who work in and across different locations (La Porta et al. 1996; Oppermann and Specht 2000; Kindberg and Barton 2001; Kristensen 2002; Breure and van Meel 2003; Kakihara and Sørensen 2004; Pica et al. 2004; Chipchase et al. 2005; Cousins and Robey 2005; Demiris and Ioannidis 2005; Oulasvirta and Sumari 2007; Kaikkonen 2009).

For instance, Lamming et al. (2000) present the design of a system called Satchel to provide easy access to documents while working out of the office. The system was designed taking into account situations where workers forget about
bringing important documents to a work session and when the access to such documents can be problematic, especially if the document is a confidential file, or if it does not open in the computer platform available. By means of Satchel, users would be able to easily access the documents in a web server, meant to be the PC of the user, and to print them out at any Satchel enabled printer that is available in the surroundings (i.e. any printer in the local environment that could communicate with the system). The system was proposed based on the premises that: (1) mobile document work is usually paper-based and unanticipated; (2) access to documents was difficult at the time; (3) environments where such kind of work happens are unfamiliar and circumstances stressful; and (4) security levels are low. Although one of the design goals for the system was ubiquity, such a feature was proven to be hard to achieve since a whole infrastructure would have to be provided in order for the system to work properly (for instance, the need for a printer to be Satchel enabled to be used from the system). This was perceived as an obstacle for the acceptance and adoption of the system.

Kindberg and Barton (2001) describe CoolTown, a system based on the use of web technologies, wireless networks and portable devices. The solution that the authors provide has to do with using local networked components to access and work on informational and technological resources. Like in Satchel, a whole infrastructure would have to be implemented for the system to work accordingly. This was perceived as an obstacle for the acceptance and adoption of the system and ubiquity once again was not achieved for the system. These examples suggest that it is not enough to come up with innovative design ideas for a specific “problem”: it is necessary to understand how the issues regarding the problem are interconnected and how the solution would affect a real-world setting; hence, a more thoroughly account of the situation is necessary: it is important to understand the purposes for which technologies are used and the essence of the work activities under consideration (Murphy et al. 2006).

A last example supporting this claim is the research involved in the design of the Nomadic Radio system introduced by Sawhney and Schmandt (2000). The system was proposed as an unobtrusive solution to allow for access to information and communication services, which are very important resource for knowledge
workers. It was developed on the fundamentals of speech recognition technologies and context-sensitive notifications. The system takes account of situations where the users cannot interact using mainly their hands. The authors propose a solution that addresses such a limitation, but, still, they recognise that users sometimes perceived the interaction with the system somehow uncomfortable, since they would have to wear an obtrusive piece of equipment (despite the attempts of the authors to design something unobtrusive) and they would have to talk to themselves, which according to the social conventions at that time would be considered awkward. Moreover, the authors identified other issues that impacted upon the acceptance of the system. For instance, they point out that: interaction with the system was often perceived as slow and tedious; users would need to memorise the system's voice commands; noise environment could impact upon the input and output of the speech system; and so forth. This strengthens the claim about the importance of a contextual approach to design and develop tools for Tm-N.

2.3.1.2 HCI and the Technology-centred Frame to Tm-N

The examples above draw attention to the importance of user studies in the design and development of computer tools for nomadic computing. This is indeed acknowledged and valued by several researchers who investigate issues of Tm-N within the technology-centred frame. Two major concerns for these researchers are the usability of the computer technologies available for T-Nomads and the user experience that they provide (Gorlenko and Merrick 2003; Harper 2003; York and Pendharkar 2003; Kangas and Kinnunen 2005; Murray-Smith 2009). With regard to design and evaluation of mobile computer technology, a whole sub-area within HCI, namely Mobile HCI, has been developed, focusing on aspects that impact upon the interaction conducted when on the move.

Studies within this area examine how the interfaces of mobile technologies should be different from those of fixed technologies, in order to provide effective, efficient and pleasant user experiences (Lamming et al. 2000; Kindberg and Barton 2001; Wiberg and Ljungberg 2001; Gorlenko and Merrick 2003). These studies highlight the features of mobile devices, such as screen size, existence of keyboard, I/O techniques, storage and processing capacity, among others, as well as the
contexts of use of such devices, like contexts involving physical movement, where the hands are occupied or eyesight is primarily focused on something else than the device screen and so forth, to emphasise the need for different and innovative kinds of interaction so that the benefits got from the use of such technologies can be maximised (Sawhney and Schmandt 2000).

Despite the growing realisation of the importance of a user-centred approach to nomadic computing, this is far away from being the most prominent concern of \textit{Tm-N} research within the technology-centred frame. For instance, York and Pendhakar (2003) go on to elaborate a comprehensive compilation of HCI studies focusing on mobile computing systems that were available at that time. Their compilation showed that 58\% of the Mobile HCI studies felt under the categories of computer systems and interface architecture, 23\% could be framed within development and implementation issues, 13\% had to do with use and context of computer issues and only 6\% of the articles focus on human characteristics issues, a percentage far from the ideal for sure.

\textbf{2.3.1.3 Common Findings of Research within the Technology-centred Frame}

A common finding from \textit{Tm-N} research conducted under the technology-centred frame is that, when issues inherent to \textit{Tm-N} are not well understood and considered during the design phase, new technologies will not work in the way they were intended to. The above-mentioned examples expose it. In addition to them, it is worth mentioning Luff and Heath's (1998) classic study that reports what happened when a laptop was introduced within a company as a replacement for paper sheets that were used to record work activities onsite. As a result, collaboration decreased and additional work was created, since paper sheets continued to be used and after they were filled in the information was entered into the laptop, which remained stationary in the office. The authors argue that such results are to do with the unique properties that the replaced technology, i.e. pen and paper, was endowed with and that could not be replicated by the use of the laptop.

Bartolucci (2007) noted similar results to those of Luff and Heath. In her study, she investigated the deployment of a piece of portable technology to support blue-collar workers who were involved in activities at different construction sites. The
new technology was meant to reduce the workers’ workload by allowing them to enter information into the system directly from the construction site and initiate several other activities that were dependent on that information. However, workers continued using their old paper sheets to collect information at the construction sites and only afterwards they entered that information into the system, often when they were at their home offices. Bartolucci argues that the design of the digital device failed by not taking into consideration environmental aspects of the sites where it would be used. Participants mentioned that they were concerned about dropping the device, getting it dirty whilst they were conducting their work and so forth. That suggests that the technology-centred approach is unable to grasp all those particularities.

2.3.1.4 Emerging Issues of Tm-N from Technology-centred Perspective

Beside the development and evaluation of computer technologies for Tm-N, studies within this frame pay attention to issues such as the use and management of different technologies available for different contexts of interaction and different activities (Vartiainen 2006; Rossitto and Eklundh 2007). For instance, people may want to use different technologies for maintaining the boundaries between personal and professional lives (Cousins and Robey 2005). Moreover, keeping data scattered across multiple devices may also be a strategy for data security, i.e. for avoiding data to be accessed by unwanted people, or for operational safety, i.e. for being able to continue working in case one device fails (Oulasvirta and Sumari 2007). However, as Oulasvirta and Summary (2007) observed, management of different devices may be problematic, demanding physical and mental effort with activities that are not the focus of the work. Participants in Rossito’s (2009) study also got lost in the midst of the constellations of technologies they were using, losing track of some artefacts they developed during some work sessions. Fortunately, the loss did not have a big impact on the final results of their work.

Research within this frame also addresses issues to do with bridging and keeping consistency among devices and applications, so that the accessed information can always be up-to-date. For example, there is no use in having access to a personal calendar through a PDA if this is not consistent with the calendar on the PC, laptop or on the Internet. This could lead to scheduling a meeting on a time
that is already allocated to another activity. In the same way, it is not feasible to work on an old version of a report if editing is on or dependent on sections that have been already changed. Therefore, consistency between devices arises as an important issue related to keeping multiple devices (Cousins and Robey 2005; Oulasvirta and Sumari 2007; Rossitto and Eklundh 2007) and raises questions about its impact on Tm-N as well\textsuperscript{14}.

Despite the valuable contribution towards the development of a technological apparatus that may be used by \textit{T-Nomads}, it could be argued that this approach does not contribute much towards understanding \textit{Tm-N} and the nuances it encompasses. Whilst studies conducted under this perspective are concerned with developing and providing technological support, they do not take into account the fact that \textit{Tm-N} is not limited to the system support used by people in different places and in different contexts of interaction. Even though some authors go on to investigate and understand how specific tasks are accomplished on the move so that they can elicit the requirements for system development, they do not investigate and examine how the other activities that people developed as they are working on a specific task are related to or affect the task in hand, which motivations people have to engage in an activity in a location rather than in another, and so on.

In summary, many of the contextual aspects as well as the social aspects regarding the use of the proposed technologies are left out. Hence, it could be said that this is a limited way to see \textit{Tm-N}, given the complexities that the subject is comprised of.

### 2.3.2 Practice-centred Frame: \textit{Tm-N} as a Multifocal Strategy

A second frame frequently applied to \textit{Tm-N} in the literature abstracts the use of technologies and the practices involved in doing \textit{Tm-N} into a \textit{nomadic strategy}. Researchers adopting this position pay attention, not only to the structured work activities that people have to perform and get paid for, but also to all the activities

\textsuperscript{14} Some of these problems have become easier to manage with the advent of “cloud computing” solutions (Armbrust \textit{et al.} 2010), whereby current information is stored online. However, the problems persist in the case of poor or no connectivity, and in the case of workers who cannot or do not want to adopt cloud computing solutions for security or stability reasons.
they need to complete in order to mobilise their work and to get work accomplished in and across different locations.

Since Tm-N is inherently mediated by computer technologies, the role of technologies in the development of these activities emerges strongly from these studies. As discussed in the previous section, such mediation is usually achieved by means of mobile and networked technologies that allow people to be in contact with each other in order to carry out their productive activities (Bergqvist et al. 1999; Kristoffersen and Ljungberg 1999; Churchill and Munro 2001; O’Hara et al. 2001; Perry et al. 2001; Wiberg and Ljungberg 2001; Esbjörnsson and Vesterlind 2003; Harper 2003; Vartiainen 2006; Oulasvirta and Sumari 2007; Aguilera 2008; Su and Mark 2008).

However, researchers who adopt this perspective in investigating Tm-N are not concerned about developing a new piece of technology: rather they are interested in investigating how current technologies fit within the context of human activities. They see technologies as tools that serve a greater goal (i.e. accomplishing work at different locations). Eventually, they draw implications for design with suggestions to be taken into consideration for the development of new technologies. Hence, this perspective is particularly relevant to CSCW, since one of the main concerns of the field is to understand the meditational role that computer technologies have in cooperative activities such as collaboration, coordination, awareness mechanisms and information sharing (Bannon and Schmidt 1991).

Within this frame, special attention is paid to the strategies employed by T-Nomads as they go on to carry out their activities. For instance, drawing on the analysis of the strategy of pastoral nomads in doing their nomadism, Su and Mark (2008) depict an insightful representation of the strategies employed by people involved in Tm-N. Figure 1 below visually represents the three foci of the nomadic strategy proposed by the authors.

The authors argue that such a strategy can be divided into three categories of practices: (1) assembling *actants*, (2) seeking resources and (3) integrating with others. First, the assemblage of actants corresponds to putting together all the

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15 *Actant* is a term borrowed by Su and Mark (2008) from Actor-Network Theory (Latour 2007) to refer to any asset carried, accessed or contacted by T-Nomads as they go on to set up their temporary workplaces and proceed to conduct their work activities. Mobile phones, laptops, work documents and people are some examples of *actants*. 
resources that may be necessary for setting up temporary workplaces – those actants are then carried with them. The search for resources, such as space, Internet connection, power supply, and so on, happens when workers are to set up their temporary workplace and start working. Finally, the integration with others is something usual, since one will always be working with or for somebody, whether a boss or a client, therefore, will need to be in contact with those people at some stage to accomplish work or report the outcomes of a working session. Moreover, T-Nomads may have to integrate with the local human infrastructure as they set up their temporary workplaces. They may need to be in contact with a technician, a resources manager among others in order to get to know about the environmental and technological infrastructures locally available, so they can benefit from them (Mark and Su 2010).

In another study within this frame, Perry et al. (2001) identify four key factors related to Tm-N: (1) planning for the unpredictable; (2) working in “dead time”; (3) accessing remote human, technological and informational resources; and (4) monitoring activities of remote colleagues. Those four key factors are directly related to the three foci of the nomadic strategy proposed by Su and Mark (2008) as will be discussed in the following subsections, while an overview on the role of computer technologies in that nomadic strategy is presented.

16 “Dead time” refers to the time spent in airports, buses, hotels, between work sections.
Although the practice-centred perspective goes further than the technology-centred perspective on the investigation of the issues surrounding Tm-N, there is still a downside in this approach: it does not fully account for the different locations where work gets accomplished. Researchers within this approach discuss the difficulties that working in different locations can cause, but they usually do not report on movement from and to multiple sites and the implications of moving to different locations to work and the influences of those locations on the work activities are not clearly explored. My study provides a more fine-grained and nuanced account of these aspects of Tm-N.

2.3.2.1 Assembling Actants

Concerning the assemblage of actants, in the literature there are recurrent discourses arguing that computer technologies allow people to take with them diverse resources on a single device and to work through them from wherever they are (Makimoto and Manners 1997; Kleinrock 2001). For example, laptops allow individuals to carry documents, slide presentations, personal and professional agendas, lists of contacts, songs, family pictures, and so forth. In addition, having the necessary resources with them allows T-Nomads to make effective use of "dead time" and perform their activities on a train, a hotel room, and so forth, covering one of the key factors of mobile work mentioned by Perry et al. (Perry et al. 2001). It is true that performing activities at some places can be constrained sometimes by the context, but context is something that people will always have to deal with. It can be said that the context dictates much of people's behaviour and many of their actions. For example, in the context of a meeting, people usually turn off their mobile phones or put them in silence mode to avoid disruptions; when they are travelling, they do not check e-mails if there is no Internet connection available; they may decide to avoid answering calls that they know or suspect to be work-related when they are, for example, in a hospital taking care of a family member, and so forth. These are a few examples of how the context may exert influence on people's actions and behaviours.

When it comes to the assemblage of actants, deciding which resources should be taken when moving the workplace to a different site can be also related to the key factor of preparing for the unpredictable (Perry et al. 2001). Mobile technology
such as laptops, mobile modems, memory keys, etc., and accessories such as power
cables with different plugs, can be easily assembled together and taken wherever
*T-Nomads* go so that they can avoid being taken by surprise and being prevented to
work. Laptops are portable and offer *T-Nomads* features such as immediacy, connectivity, all-in-one device\(^\text{17}\), easy access to ports and up-to-date information, among other facilities (de Carvalho *et al.* 2011). Having a mobile modem and using it for connecting to the Internet wherever the provider signal is present can be very useful, although network coverage areas can still be a problem.

Finally, taking into account features such as enhanced battery longevity, integrated wireless networking, portability and pervasiveness of informational resources and devices which are increasingly powerful in computer technologies, the support that they offer people engaged with *Tm-N* becomes more and more evident.

### 2.3.2.2 Seeking Resources

Regarding the search for resources, *access to remote technological and informational resources* (Perry *et al.* 2001) is a key factor since a resource must be available in order to be found. In this regard, network connection, different Internet protocols, the World Wide Web and several web-based tools allow people to access digital resources, both technological and informational, that are made available. The spread of broadband connections and the existence of high capacity servers, such as Google accounts and other similar services, made easy the upload of large amount of data that can be, in the same way, downloaded afterwards. Also, several software tools that previously were sold in CDs can now be bought and downloaded from the Internet. Connectivity, as foreseen by Kleinrock (1996), now plays a central role because it makes possible the access of resources anytime/anywhere.

Once resources are available, people can then search for those resources that they need. GPS, digital maps and online location services can help people find the place where they have to go, as well as get information about the place and the resources available there, so that they can locate suitable spaces where they can

\(^{17}\) *All-in-one* refers to devices that integrate several components like keyboard, screen, webcam, and so forth.
work. Moreover, online services allow people to buy tickets, book hotel rooms and so on. This search for resources is directly related to planning trips and making effective use of “dead time” (Perry et al. 2001), also interpreted here as key aspects of Tm-N. Still, if something different from what has been planned happens, computer technologies can give access to people or resources that can help T-Nomads to deal with the unexpected.

### 2.3.2.3 Integrating with Others

Many technologies allow people to be in contact with other people independently of location. E-mail, instant messengers, SMS messages and video conferencing services are some examples. These technologies have made more flexible the choice between synchronous and asynchronous interaction: on one hand, somebody can have a synchronous chat through an instant messenger or call someone on the other side of the world using a mobile phone. On the other hand, communication can be conducted asynchronously through e-mail. This is an example of how technology can allow for the temporal mobility mentioned by Kakihara and Sørensen (2001).

Temporal mobility can be especially relevant to people who have to deal with time and contextual constraints: for example synchronous communication can be very useful when someone needs an immediate answer whilst asynchronous communication can be more effective for interaction among people who are in different time zones or who are not able to participate in a synchronous communication due to the context in which they are, such as for example in a meeting, in a place without Internet connection or mobile phone service.

Moreover, tools for computer-mediated communication can minimise obstacles that usually accompany unfamiliarity or weak social relationship among people. For example, consider a situation where somebody from South America needs to interact with somebody in Japan for work purposes. Possible cultural clashes that could emerge in a face-to-face meeting between these two people, for instance, clashes related to etiquette (e.g. shake hands, kiss the face, or bow in greeting or to say farewell), can potentially be avoided by virtual meetings (Kakihara and Sørensen 2001). However, such tools may hinder people's capacity of sensing how
well an interaction is going and of identifying the reasons for that so they can adjust to it (Olson and Olson 2000).

Integrating with others can refer both to the contact that T-Nomads establish with the locals in order to be able to make proper use of the technological and environmental infrastructures available on site, as previously addressed, and to monitoring activities of remote colleagues identified by Perry et al. (2001) as one of the key factors of Tm-N. In regard to the latter, one can keep track of activities in the office asking for daily report e-mails. Another possibility is to use an on-line interactive tool where people can report their activities.

Integration with other may also be pursued only for the sake of maintaining a social relationship with other colleagues from work (Perry et al. 2001; Wiberg and Ljungberg 2001; Rossitto and Eklundh 2007; Mark and Su 2010). Perry et al. (2001), for instance, point to the importance of keeping informal awareness in the office when working away for some time, which can be done by being on-line in the instant messenger system used in the company. The authors argue that such interaction is important to build a sense of community that can strengthen work relationships and benefit collaborative work and knowledge sharing (Derballa and Pousttchi 2004; Ciolfi et al. 2005). In this regard, diverse computer technologies can be used to provide informal awareness in the office such as mobile phones, instant messengers, e-mail, social network websites and so forth.

However, there is the other side of the coin. Some studies point to the difficulties of knowledge sharing by means of computer technology. Wiberg and Ljungberg (2001) emphasise the need for a common place to meet in order to work on knowledge sharing, strengthening Olson and Olson’s (2001) perspective on the role of face-to-face interactions in collaborative work. Bartolucci (2007) take Wiberg and Ljungberg’s (2001) arguments that computer technologies are not prepared yet to allow for knowledge sharing in the same way that face-to-face interactions allow for. However, Nardi and Whittaker (2002) elaborate on the notion of media ecologies, comprised of a mix of face-to-face and mediated interactions, suggesting that depending on the situation mediate interaction can be preferable. Moreover, although enhanced awareness can support communication among co-workers, it can also change work relations, raising privacy, surveillance
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and user control issues among others (Chen and Nath 2005; Perry and Brodie 2006).

Therefore, it is evident that there is still room for research to understand how computer technologies impact upon the integration with others inherent to Tm-N and how they can be improved, so that people may have the alternative of not moving physically if they will and still share knowledge effectively and efficiently.

2.3.3 Place-centred Frame: Tm-N as Work Bound to Different Places

The third approach used to frame studies on Tm-N in the literature is related to understanding Tm-N as a matter of “work bound to different places” (Rossitto 2009, p.14). This perspective is closely associated with CSCW’s well-established tradition of investigating the role that spaces and places play in the development of collaborative work (Harrison and Dourish 1996; Ciolfi et al. 2008).

Within this frame, particular attention is paid to place-making activities: the focus is on how places are created and experienced as Tm-N unfolds and how work activities are situated. Researchers adopting this perspective argue that T-Nomads are constantly making places out of generic spaces in order to carry out their productive activities, and that this has direct implications on the accomplishment of work (Ciolfi et al. 2005; Murphy et al. 2006; Bartolucci 2007; Rossitto and Eklundh 2007).

In fact, place has been considered a practical concern for T-Nomads since a long time (Brown and O’Hara 2003; Felstead et al. 2005). As Brown and O’Hara (2003) discuss in their seminal article, place can influence the development of work activities depending on the affordances they provide workers with. At the same time, work can also impact on the construction and experience of place as T-Nomads go on to modify and configure generic spaces according to their needs so that work can be accomplished there.

Noting such importance, many researchers have invested in advancing the understanding of the relationship between Tm-N and place (e.g. Davenport and Pearlson 1998; Churchill and Munro 2001; Breure and van Meel 2003; Murphy et

18 Within CSCW, space and place are often treated as different elements. Whilst the former is associated with physical environments (e.g. a room delineated by walls), the latter is interpreted according the views of the phenomenological geography tradition in which place considered a physical space invested with human experiences and values where actions and interactions unfold (Brown and O’Hara 2003; Ciolfi 2004; Dourish 2006)
Rossitto (2009), for instance, goes on to show how place can be used as a framework to understand Tm-N, using the notion of place to guide the data collection and data analysis processes of her study, which was concerned with understanding the effects of Tm-N on collaborative writing activities within groups of students.

The literature suggests that every time people move to a new location to work, a kind of temporary workplace is created so that productive activities can be developed (Ciolfi et al. 2005; Rossitto and Eldundh 2007; Hislop and Axtell 2009). For that, T-Nomads bring with them personal belongings that support them in inhabiting a generic space so that it becomes lived and experienced (Churchill and Munro 2001; Brown and O’Hara 2003; Su and Mark 2008). As Mark and Su (2010) note:

> No matter what new environment they are in, NWs [Nomadic Workers] immediately seek to create a portable office that is as complete as possible so as to be self-sufficient. NWs carry components to provide redundancy: away to contact others in case one means cannot work. The portable office assemblage enables NWs to maintain continuity in their work and deal with contingencies they encounter as environments can be unpredictable. (p.317)

Churchill and Munro’s (2001) findings, for instance, showed that people tend to appropriate the physical space where they are working by spreading photos and files over it. In the same way, Brown and O’Hara’s (2003) observations show people appropriating and transforming spaces by using low and high tech artefacts such as laptops, phones, cups, family photos and so forth before starting the actual work. It can be argued that from the moment that someone starts interacting with a space and its resources to carry out their activities, a place is established (Ciolfi 2004).

Indeed, a large body of literature addresses the place-making activities associated with Tm-N and the role of the environment (Harrison et al. 2004; Felstead et al. 2005; Rossitto 2009). Within this literature, it is common to find elaborated arguments for the importance of considering the differentiation between the concepts of space and place. According to researchers who argue for it, such a differentiation impacts on the way tools should be designed to allow for specific kinds of interactions (Harrison and Dourish 1996; Dourish 2006; Ciolfi et
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al. 2008). This thesis notes this argument, although it does not aim to contribute
directly with this discussion.

With regard to establishing workplaces across several locations, Perry and
Brodie (2006) highlight the importance of taking into consideration the
development of tools to allow people to set up their temporary workplaces. In fact,
a lot of effort is put into organising and packing things that will be necessary to
conduct work in a new location, since such work usually is dependent on
information, technological or even human resources that should be assembled, and
brought along to the new location, as previously discussed in section 2.3.2. Also,
considerable effort is invested in discovering the resources needed to lay the
supportive apparatus down and to make it work (Mark and Su 2010). All these
activities developed prior to the formal work is called *mobilisation work* by Perry
and Brodie (2006), i.e. the work done to get *Tm-N* started.

It is broadly accepted that computer technologies can make mobilisation work
easier and more effective (Harrison *et al.* 2004; Felstead *et al.* 2005). Actually,
several authors mention that the advent and spread of mobile and networked
technologies such as laptops, PDAs, mobile and smart phones and so forth, is one of
the foundations to the proliferation of nomadic practices, because it allows for the
mobility of the workplace to new locations where necessary resources to conduct
the work can be found (Kleinrock 1996, 2001; Perry *et al.* 2001; Wiberg and
Ljungberg 2001; Green 2002; Lytinen and Yoo 2002b; Brown and O’Hara 2003;
Lilischkis 2003; Kakihara and Sørensen 2004; Demiris and Ioannidis 2005; Su and
Mark 2008; Murray-Smith 2009). However, some authors call for caution by
pointing to the drawbacks that relying too much in technology can cause (York and
“[w]orkers lose time and productivity when they have to reconfigure their work
setting and processes to allow mobile technology to support their work” (p.776).

In terms of the role of the environment and the infrastructure available in it,
researchers often highlight that each environment is endowed with specific
qualities that may impact upon *Tm-N* (Brown and O’Hara 2003; Mark and Su 2010)
or that may influence the choice for an environment over another (Normark *et al.*
2005; Bogdan *et al.* 2006; Rossitto *et al.* 2007). For instance, Rossitto and Eklundh
(2007) stress how places are associated with different meanings and how they can
afford different interactions and the establishment of specific social relations. For instance, in discussing how a group of students approached a collaborative project nomadically, they give examples of how the resources available in a given environment would influence students to move and engage in work in it. One of the examples that the authors provide is to do with the infrastructure necessary to accomplish a task. For example, the authors observed that students would move to a meeting room whatever the task at hand would demand the use of whiteboards, projectors, etc. On the other hand, the availability of human resources could influence the students to congregate in an open area that does not have the same resources as a meeting room. According to the authors, it was common for the observed group to meet up in an open space of a particular university building that was close to the office of their supervisor. In this way, they could easily reach her whenever they need assistance.

Issues like these ones are extensively discussed on the literature, with authors frequently discussing how certain attributes of the environment (e.g. noise level, comfort, public or private space, etc.), the availability of certain resources (e.g. Wi-Fi connectivity, power supply, co-workers, food, among others) and the visibility of the available infrastructure may impact upon Tm-N (Breure and van Meel 2003; Brown and O’Hara 2003; Lilischkis 2003; Rossitto and Eklundh 2007; Mark and Su 2010). The findings of this thesis confirm and elaborate on many of these findings, as will become evident in the data chapters, which present the analysis performed over the fieldwork data collected for this research.

Although the place-centred approach introduces the role of different locations in Tm-N, which is usually not present in studies framed within the technology-centred or practice-centred approaches, place-centred studies, like the ones from these other two perspectives, treat Tm-N as a matter to do exclusively with work, whilst some research suggests that Tm-N is not only to do with the work dimension of life (Goldmacher 2008; Jordan 2008; Meerwarth 2008). In fact, the blurring of work-life boundaries is a central issue for Tm-N studies within the work-life boundary frame discussed in the following.
2.3.4 Work-life Boundary Frame: Tm-N as Blurring Element of Work-Life Boundaries

The fourth and last frame for Tm-N research identified during this literature review is one centred in work-life boundaries. With anytime/anywhere access being a reality nowadays, getting in touch with information, technological and human resources necessary to conduct work became much easier (Kleinrock 1996; Perry et al. 2001; Green 2002; Lilischkis 2003; Demiris and Ioannidis 2005; Su and Mark 2008; Murray-Smith 2009). As a result, it became easier to bring work home and the boundaries between work and non-work lives started fading away progressively. Therefore, it could be said that in order to accurately understand Tm-N, it would be necessary to consider it as something that goes beyond work, something that blurs the distinctions between work and non-work lives.

Indeed, changes in work practices point to a shift from time and space structured work to more flexible and multilocated nomadic practices (Meerwarth et al. 2008b; Duxbury and Smart 2011; Ciolfi et al. 2012). As time goes by, it seems to be more and more difficult for people to keep work away from their personal lives. Nowadays, it is very easy to get caught in work-related e-mails, phone calls and so forth while at home or on vacation (Cousins and Robey 2005). Therefore, some researchers set out to investigate the impacts of engaging in Tm-N in work-life boundaries, making use of a work-life boundary frame to orient their research.

Already in 2001, a study by Brodie and Perry (2001) accounted for the phenomenon among white collar workers that pointed towards the start of work-life boundaries blurring due to engaging in Tm-N. According to the authors, such workers tended to consider being working wherever they opened their laptop and started to deal with work-related information and communication. Churchill and Munro (2001) made the same observation during their investigation about the locations in which work was usually carried out by T-Nomads. As time passes by, an increasing number of researchers started realising that such blurring of work-life boundaries is being intensified.

Although celebrated by some workers, given the flexibility of the work tasks and the perceived possibility of making the most of both personal and professional lives, these changes are not so easy for some other workers (Duxbury and Smart
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Bean and Eisenberg (2006), for instance, performed a study to investigate how people who were used to conduct work in a traditional fashion perceived changes in their work-life when their company decided to change its organisational scheme promoting Tm-N among their employees. Their findings point out an ambivalent relationship between T-Nomads and the blurring of work-life boundaries resulting from their engagement in Tm-N.

In actual fact, many other researchers note that by engaging in Tm-N workers can potentially have more flexible work-life arrangements and, therefore, engaging in Tm-N may increase job satisfaction and productivity (Chen and Nath 2005; Gluesing et al. 2008; Su and Mark 2008; Hislop and Axtell 2009). However, at the same time that such flexibility may be beneficial, it can be overwhelming (Chen and Nath 2005; Bean and Eisenberg 2006; Mazmanian et al. 2006). According to these studies, people who engage in Tm-N are prone to think that they must be available all the time and keep a high responsiveness rate (Lal and Dwivedi 2010). This leads to the need for renegotiation of the spatial-temporal boundaries regarding work and domestic life (Hislop and Axtell 2009). Some people even try to establish work-life boundaries, but they end up with crossing them accidentally (Salazar 2001; Lal and Dwivedi 2010; Duxbury and Smart 2011) and, sometimes, even developing conflicting work-life balance relationship (Shumate and Fulk 2004; Chesley 2005). These findings resonate to a large extent to the findings of this thesis, as will be discussed during its analytical chapters.

Cousins and Robey's (2005) study illustrates some of the renegotiation done to conciliate work and domestic lives. As the study suggest, there comes a time where people want to draw the line between work and domestic lives spheres. Even those who say they do not mind carrying out some work activities while on vacation or during the weekends, like Rookie, the worker in focus on one of the cases presented by the authors (p.162), there are certain moments that such boundary is desirable, as Rookie himself mentions.

Although studies within the work-life boundary frame addresses Tm-N as something beyond a work condition, they usually do not address how the process permeates these two dimensions of life. In addition to that, these studies often develop a home/work life dichotomy and do not address the accomplishment of
work in other locations (Hislop and Axtell 2007). Furthermore, despite the increasing number of studies adopting a work-life boundary frame to investigate issues of Tm-N, there is still a shortcoming in the literature on how the blurring of work-life boundaries in T-Nomads lives is associated with Tm-N (Meerwarth et al. 2008b). All these issues expose the need for research that advance the understanding of how doing Tm-N is part of T-Nomads’ lives.

2.4 ACCOUNTING FOR A NEW PERSPECTIVE: Tm-N AS A DYNAMIC AND EMERGENT PROCESS

As discussed in section 2.1, past and current research on Tm-N usually starts from the premise that certain types of work are inherently nomadic; hence they are performed by T-Nomads. Once this assumption is made, researchers go on to investigate how Tm-N unfolds, how it may be supported by computer technologies and how it impacts and is impacted by the locations from where it happens.

I argue for a different approach: I defend that there is a spectrum of Tm-N and that, whilst some kinds of jobs may demand workers to move and engage in work in distinct sites, other types of work may be potentially nomadic and people may choose to engage in it nomadically. If they decide to do so, Tm-N emerges\(^{19}\) from the way that T-Nomads apply an ecology of practices in order to move their workplace as they go on to accomplish work in and across multiple locations. This ecology encompasses practices that may result in T-Nomads working in locations traditionally devoted to non-work activities (e.g. at home), which may contribute to blurring the distinctions between people’s work and non-work lives, as will be discussed in Chapter 6 of this thesis.

This new perspective that I present as the main contribution of this thesis is the result of the development of the research questions posed in this thesis that are answered through fieldwork data. The review of the literature presented above, indicates that much has been said about issues concerning Tm-N, but little has been said about Tm-N specifically, with researchers depicting it sometimes as an extreme form of mobile work that involves long distance travel or as the lack of a

\(^{19}\) For a discussion on how Tm-N emerges from an ecology of practices, please refer to section 2.4.3 of this Chapter.
stable location to work. Thus, this thesis set out to investigate the notion of Tm-N more thoroughly. Drawing on empirical findings from fieldwork, I argue that it is necessary to rethink the very way that we look at Tm-N.

As the fieldwork conducted within this doctoral research progressed, it became evident that Tm-N can be seen as a dynamic process that emerges from T-Nomads’ involvement in an ecology of practices that has to do with the mobility of the workplace to different locations where some key resources for accomplishing work are found. The diagrammatic illustration in Figure 2, inspired by Eisenberg’s representation of the identity process (Gluesing 2008, p. 72), attempts to depict this process and its nuances.

![Figure 2. Tm-N as a dynamic and emergent process](image)

In summary, this new perspective on Tm-N describes the process at three different levels of abstraction, with the higher levels including elements of the lower levels. At the core of the process (level 1), there is a spectrum of motivational forces that drive Tm-N; in the “shell” of it (level 2), there is the
ecology of practices employed as $Tm$-$N$ unfolds\textsuperscript{20}; finally, outside the process there are the work and non-work life contexts of which $Tm$-$N$ is part (level 3).

It is worth pointing out that $Tm$-$N$ is different from the processes underlying the accomplishment of work by people who do not engage in work in multiple locations in that the practices for the mobility of the workplace to different environments and to the accomplishment of work from these locations are herein considered distinctive properties of $Tm$-$N$. Hence, from the perspective of this thesis the mobility of workplace and the achievement of work in different sites are unique attributes of $Tm$-$N$. If the two of them happens, then it can be said that $Tm$-$N$ is unfolding.

The following sub-sections introduce the spectrum of motivational forces observed in this research, elaborate on the notion of the ecology of practices used for this thesis and discuss how the dynamic and emergent aspects of $Tm$-$N$ exposed by the empirical data collected through fieldwork are related to the notions of improvisation (Weick 1998; Ciborra 1999) and situated action (Suchman 2007) found in the literature. These summarise the main results of the data analysis performed for this thesis; however, they do not bring any empirical data. Empirical evidence supporting the arguments introduced in the following sub-sections can be found in the analytical chapters ahead (Chapters 4, 5 and 6).

2.4.1 Introducing the $Tm$-$N$ Spectrum

As depicted in Figure 2, at the core of $Tm$-$N$ (level 1) is the spectrum of motivational forces that drive it. The spectrum herein described was elaborated from a dialog between the literature review that I carried out for this research and the empirical data that I collected through ethnographic fieldwork.

As I engaged in reviewing the literature, I observed that there was a dichotomy in the arguments associated with the reasons why people engage in doing $Tm$-$N$. Frequently, research studies within the practice-centred and the placed-centre

\textsuperscript{20}For the second level of diagrammatic illustration of $Tm$-$N$ portrayed in Figure 2, I decided to represent the three key elements associated with the $Tm$-$N$ ecology of practices: \textit{mobility}, which refers to the physical movements of people and resources; \textit{locations}, which refer to the geographical positions as well as the environment and infrastructure available in them; and \textit{workplace tokens}, which is the termed used in this thesis refers to all technological informational resources that are necessary to set up temporary workplaces at the locations to where $T$-Nomads move.
approach to Tm-N pointed the need to meet face-to-face or to use specific resources fixed in a given location as the reasons why people would engage in Tm-N. Thus, T-Nomads would have to move to those locations and take with them resources that would afford the accomplishment of their work (Perry et al. 2001; Bogdan et al. 2006; Su and Mark 2008). In turn, studies developed within the technology-centred and the work-life boundary centred frames often stressed the element of choice, describing how computer technologies allow T-Nomads to engage in work in locations where they can find comfort or in times that suit them best (Salazar 2001; Cousins and Robey 2005; Bean and Eisenberg 2006).

The data collected during my study suggest that the factors leading to Tm-N were not as clear-cut as it was depicted in the literature. Choice and obligation emerged from the fieldwork data as two extremes of a spectrum of motivational forces that lead to Tm-N. According to my findings, these motivational forces can be organised in a continuum that depicts a scale of freedom associated with the decision to move to a location to engage in a specific work task. This continuum ranges from choice and opportunity to obligation, as portrayed in Figure 3.

![Figure 3. Spectrum of Nomadicity According to the Freedom of Choice](image)

Based on empirical evidence presented in Chapter 4, I identified that, depending on the nature of the job, T-Nomads sometimes have total freedom to decide whether or not to go to a specific location and to achieve work from there. They may choose to move to and work there because it offers them comfort, inspiration, subsistence (e.g. food), among other resources. For instance, they may decide to go and work in a cafeteria because the coffee served there is the best in the city. Situations like these are located at the choice end of the continuum presented above.

In terms of opportunity, I observed that sometimes T-Nomads engage in work at locations where they do not expect to do so because some kind of resource was conveniently made available. Therefore, they may not choose to move to the
location in question to work; however, once they are at a certain location they may choose to opportunistically engage in work there because time was available or another resource came into play. For this reason, I suggest that the freedom of choice associated with opportunity lies between choice and obligation. For instance, when someone is having lunch in a restaurant and a collaborator meets them unexpectedly, they may end up discussing and achieving some work on their collaborative project because of a looming deadline. On the other hand, if time is not an issue, they may choose to talk about everything but work.

Finally, some situations force T-Nomads to move to specific locations and to engage in work there, i.e. they do not have a choice but move to these locations. This usually happens when they have to use specific resources that are found only at those locations, or because they are required to be at that location due to company policies. For instance, in the case of the academics taking part in my study, they are obliged to move to different lecture halls to deliver their lectures. Although they suggest that they can potentially lecture from anywhere (e.g. in a square, in a pub, etc), they are required to move and work in the rooms assigned to them because it is part of the university’s scheduling system. Situations like these are placed at the opposite end of the spectrum of motivational forces that I identified in this work.

Whilst Figure 3 portrays the Tm-N spectrum as a continuum, the same spectrum is organised differently in Figure 2: this is because Figure 3 is organised according to the freedom involved in the decision to move to a specific location (total freedom = choice; no decision = opportunity; no freedom = obligation) and Figure 2 is organised according to the possibility of one motivation to lead to another one. For instance, if someone chooses to move to a location and work on a determined assignment, one may engage in another work task as other resources are conveniently made available on site (e.g. inspiration, time or other people); hence, choice led to opportunity. Similarly, someone may choose to go to a location (like when they go and visit a relative) and an unexpected situation forces them to

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21 They cannot do so when lecturing involves specific resources found only in some places
22 By ‘no decision’ I mean that the person did not decide to move to a location to engage with the work task in question. They move to the location due to some other reason, and then some resource becomes available and they opportunistically engage with the work task of reference.
move to other location and engage in work from there (e.g. a call from the boss demanding that action is taken with regard to something); in this case, choice was followed by obligation. Last but not least, when there is demand for a person to move and work at a specific location, some resources may become available at that location and that person may end up with engaging in other unplanned work activities (as can happen when they are in a location by choice); thus, obligation was followed by opportunity. Empirical evidence illustrating each of these possibilities is found in Chapter 4.

2.4.2 Elaborating the Notion of Ecology of Practices

The notion of *ecology of practices* is one of the key elements in the new perspective on *Tm-N* that I present in this thesis. Therefore, before embarking on discussing the empirical findings of my research, I find fundamentally important to clarify what I mean for it. For that purpose, it is of essential relevance to make it clear how I interpret *practica* and how I am using the concept throughout this thesis. I address these two issues in the following sub-sections of this Chapter.

2.4.2.1 The Concept of Practice

*Practice* has been a subject of research interest for a long time. In the 1970s, researchers from several areas such as linguistics, sociology, anthropology, among others, began using a practice-based approach to research (Ortner 1984). In 1972, Pierre Bourdieu first published his *Outline of a Theory of Practice* – translated to English a few years later – suggesting that “the theory of practice puts objectivist back on its feet by posing the question of the (theoretical and also social) conditions which make such knowledge possible” (Bourdieu 1977, p.4).

Since then, several traditions of theories of practice have been developed, with researchers discussing and debating the nature of practice and the focus of practice-based studies (Chaiiklin and Lave 1996; Cook and Brown 1999; Schatzki *et al.* 2005; Gherardi 2008). As a result, different definitions for the concept of practice have been elaborated evoking different associations that are sometimes conflicting (Geiger 2009).

Schatzki (1996), for instance, identifies three prominent notions of practice addressed in theories of practice. In the first, practice is defined as “development
through doing” (p.89). Examples of such practices is the “arrays of activities” (Schatzki 2005b, p.11) or “set of actions” (Schatzki 2005a, p.56) encompassed in learning or improving one’s skills at a musical instrument (e.g. practicing the violin), a particular sport (e.g. practicing basket shoots), or any other skill. The second notion defines practice as “a temporally unfolding and spatially dispersed nexus of doings and sayings. Examples are cooking practices, voting practices, industrial practices, recreational practices, and correctional practices” (p.89). This second notion refers to one of the most commonly used in practice-oriented studies within streams of research such as cultural and aesthetic approaches, situated learning, activity theory and workplace studies (Gherardi 2008). Studies within these streams commonly focus on the situated, mediated and relational aspect of practices (Boud and Brew 2012). The third and last prominent notion that Schatzki (1996) addresses is that of “performing an action or carrying out a practice of the second sort” (p.90). As noted by the author, this third notion of practice is directly related to the second one. The difference between the two is that whilst the third is associated with a “sense of doing” the second carries a “sense of nexuses of doings.”

Although the above definitions do not constrain the notion of practice to a socially-inherent condition, it is not uncommon to find in the literature claims that practice is a social notion innately. Wenger (1998), for instance, defines practice as an attribute of communities of practice and describes it as a “way of talking about the shared historical and social resources, frameworks, and perspectives that can sustain mutual engagement in action” (p.5). He goes on to say that “the concept of practice connotes doing, but not doing in and of itself. It is doing in a historical and social context that gives structure and meaning to what we do. In this sense, practice is always social practice” (p.47, underline added).

Wenger's (1998) notion is in some aspects similar to Barnes’ (2005) notion of practice as collective action. According to Barnes the notion of practice only makes sense if it is thought of as a “collective accomplishment” (p.32). Even practices carried out individually – like the acupuncture practice that the author uses as one of his examples and that is normally administered by a single person – should not be understood as an individual practice. The author argues that:
...although acupuncture is individually administered it is administered as acupuncture by a member who, in realizing that shared practice, has to be sensitive to what other practitioners are doing. The acupuncturist must interact with fellow practitioners, and be both cognizant of and disposed to move in the direction of their practice in order to be a practitioner herself. It is only through the interaction of a membership characterized by mutual intelligibility and mutual susceptibility that something identifiable as shared practice can be sustained, and its correct enactment distinguished from what is defective or incompetent. (p.34)

Despite the active debate in the literature about the nature of practice, I will not delve into it. Nor will I seek to explain Tm-N through the development of a theory of practice. Instead, as some other researchers do (Orlikowski 2002; Kakihara 2003; Orlikowski 2007, 2008; Sigfridsson 2010), I will use practices as a subject of observation rather than a topic of analysis in itself. In regard to the notion of practice, the term practice is used here in the conventional sense of “something that people often do, especially as part of their work or daily life” (Longman Dictionary of Contemporary English 2009), as used within the body of literature I draw on. This includes but is not restricted to social practices. Thus, I am interested into what Lave (1997) terms “everyday practices”. As she notes:

"Everyday" is not a time of day, a social role, nor a set of activities, particular social occasions, or settings for activity. Instead, the everyday world is just that: what people do in daily, weekly, monthly, ordinary cycles of activity. A schoolteacher and pupils in the classroom are engaged in “everyday activity” in the same sense as a person shopping for groceries in the supermarket after work and a scientist in the laboratory. It is the routine character of activity, rich expectations generated over time about its shape, and settings designed for those activities and organized by them, that form the class of events which constitutes an object of analysis in theories of practice. (p. 15)

It is relevant to note that, as observed by Lave (1997) and emphasised by Sigfridsson (2010), practices are recurrent; they are not one-time performances that happen once and no more, but sets of interconnected actions routinely enacted for particular purposes. Hence, the practices in the ecology from which Tm-N emerges are habitual or sporadic arrays of interrelated actions that when they come together results in the mobility of the workplace to an assortment of sites and the accomplishment of work in these locations.

23 For instance, Su and Mark (2008) indentify assembling actants, seeking resources and integrating with others as focal points that embody “particular practices that NWs [nomadic workers] are concerned with” (p.307, emphasis in the original) in reference to things that T-Nomads recurrently do when they engage in Tm-N.
Examples of practices that were observed through fieldwork conducted for this research are: emailing oneself documents that will be needed in different locations; bringing the laptop whenever there is associated uncertainty about the resources that will be needed in the new work location; preparing paper printouts when knowing that there will not be wireless connection; answering emails late in the night when not sure about the consequences of not doing so; and moving to a place with a better technological infrastructure when working in tasks that demands high computational power. These practices will be illustrated with empirical data throughout the data chapters, which will follow the Methodology chapter of the thesis.

2.4.2.2 A Mix of Strategies, Routines and other Nexuses of “Doings”

The notion of ecology has been used by several authors to refer to a mix of different elements that coexist and are related both to each other and to the context within which they exist (Bateson 1972; Star and Ruhleder 1994; Nardi and Whittaker 2002). For instance, Nardi and Whittaker (2002) define “information ecologies” as “local habitations of people, practices, technologies, and values” (p. 102).

The notion of ecology of practices used for this thesis arose as I went on to engage in fieldwork. It became evident that there were a series of different practices that T-Nomads engaged in as they went on to accomplish work in multiple locations. These practices were comprised of different strategies (e.g. bringing the laptop whenever they were uncertain of the information and technological resources they would need in a working session), routines (e.g. firstly assembling the resources for a work session, then moving to a new location, followed by setting up a temporary workplace, doing work, and then moving to another location), and other nexuses of “doings” (e.g. receiving phone calls from collaborators at home, buying lunch in a restaurant and having it in the office, etc.), which coexisted in the context of the participants’ work-life. Therefore, I was able to observe heterogeneous categories of practices and watch the participants engaging in them as they went on to achieve work in various sites.

In terms of ecologies of practice, one can argue that everyone, not only T-Nomads, uses an ecology of practices for every endeavour. I totally agree with the
argument, so there is no dispute about this in here. However, the ecology of practices addressed in this thesis contains practices that are to do with the mobility of the workplace and the accomplishment of work in multiple locations. As noted before in this Chapter, these are unique aspects of Tm-N and, subsequently, of the ecology of practices from which it emerges.

A noteworthy observation is that on the relationship between Tm-N and routines. Although routine and Tm-N are two distinct notions – the former refers to things (e.g. organisational processes) done regularly, often in a customary order (Garfinkel 1964; Feldman and Pentland 2003), in almost a ‘(pre)scripted’ way (Schegloff 1986, p.113), whilst the latter refers to the achievement of work in different locations – Tm-N may emerge from routines and routines may be part of the Tm-N ecology of practices.

With regard to the first observation, consider a person who has a very structured approach to their work-life: he wakes up in the morning, waters his plants, does some work as he has his breakfast, moves to a café, works from there for a while, moves to his office, works there for a while, goes to a restaurant to have lunch, checks and replies to e-mails during lunch, and so forth. As he goes on to perform his routine, Tm-N unfolds as work is accomplished in several locations.

In terms of the second, when moving from a place to another, there are usually a few short routines involved. For instance, during the fieldwork that I conducted I observed participants separating the resources they would need for a work session at a different location while they were working in their offices, and, immediately before leaving, they would go through their bag or rucksack checking whether everything necessary was there. This can be considered a routine practice to some extent.

It is worth noting that there is no difference between the ecology of practices for Tm-N emerging from a more or less routine approach to work in multiple locations: the ecology of practices in question has to do with the same things, i.e. the mobilisation of work resources to different locations, the configuration of

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24 This scenario is inspired in the observation of one of the participants of the fieldwork for this research, as will be discussed in Chapter 5.
temporary workplaces and the accomplishment of work tasks from these locations. The difference between routine work and less routine work approached nomadically observed in this research is that in the former the mobilisation of work resources is more likely to be planned, whilst in the latter it is ad hoc.

For instance, if I am a T-Nomad who has a established routine for the accomplishment of work in different locations, it is likely that I know the locations where I will be working and what infrastructure is available there; hence I can anticipate to some extent the resources that I will need in each location and I can plan beforehand what I will take with me, besides the core resources that I would need anywhere else. Nevertheless, if I approach my work in a more ad hoc way – e.g. working in some sites today, and changing completely tomorrow, or working in some projects during a day and having to engage in other projects tomorrow according the opportunities available – I find it acceptable to think that I will not to be able to anticipate the resources I will need to take with me as in the previous situation.

Having said that, it is worth noticing that routine Tm-N may be disrupted and planned work activities may be overtaken by unplanned work activities that may be required to be developed at the moment that a planned activity was unfolding. This relates to the dynamic and emergent aspects of Tm-N discussed in the following section.

2.4.3 Improvisation, Situated Action and the Dynamic and Emergent Aspects of Tm-N

Two important attributes of Tm-N that stood out in the empirical data were its dynamic and emergent aspects. As the fieldwork progressed, it became evident that Tm-N is a dynamic process. By dynamic I mean that this process is continuously changing, i.e. it is constantly reconfigured through the interplay between: (1) the different motivational forces underlying the moment; (2) the ways in which people mobilise their work resources and themselves to new locations; (3) the infrastructure offered by the new location; and (4) the ways in which people make use of the available infrastructure together with other resources they have brought to the site to set up their temporary workplaces. From this observation, it is noticeable the link between Tm-N and the notions of
improvisation (Weick 1998; Ciborra 1999; Orlikowski 2003) and situated action (Suchman 2007) found in the literature.

This relationship is strengthened by the emergent aspect of it. As for example, I have mentioned already that Tm-N emerges from an ecology of practices that has to do with the accomplishment of work in several occasions. By emerging from an ecology of practices I mean that the accomplishment of work in diverse locations becomes gradually observable as T-Nomads access work resources, get in contact with people, produce new knowledge, disseminate it, and so forth. It means that T-Nomads progressively put into action practices that lead to the mobility of the workplace to the current location and the accomplishment of work tasks there. It is not like T-Nomads would say “let’s engage in Tm-N now” and then they stop, sit down, disconnected from the world and, then, work is accomplished here and there. It is more like, choosing to go to a specific location because the environment is enjoyable or because they can get good food in there and, then, they bring resources with them that will allow to achieve certain tasks. Or else when they are at a location and they meet a collaborator and start a conversation that makes them remember about a particular document they are working on together and they decide to do some work on it; so they download the document, discuss it, summarize it, and by doing so work starts being done. Or even when they must move to a particular location and engage in work there, they think of the location before going there and, once in a while, they remember about a resource that they will need in that location, put it in the bag that they will take with them in that location. This could be done whilst they are with their family and, at the moment they have to go to the location in question, they may find that a family member is going to a location nearby and decide to take a ride with him or her.

Therefore, as an emergent notion, Tm-N has life cycles that reflect the accomplishment of work at assorted locations. As Wenger (1998) notes, elements of emergent structures “come together, they develop, they evolve, they disperse, according to timing, the logic, the rhythms, and the social energy” (p.96) of the

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25 This refers to situations where Tm-N is driven by choice
26 Here the scenario corresponds to situations where Tm-N is driven by opportunity
27 This illustrates how Tm-N emerges in situations where obligation is the motivation to move to a location.
process. Hence, as T-Nomads go on to engage in work in and across different locations, certain practices\(^{28}\) from the Tm-N ecology available to them come together and once work is accomplished (or aborted) they fade away. In this sense, Tm-N is very similar to the notion of improvisation elaborated by Ciborra (1999), who notes that improvisation:

> ...is situated performance where thinking and action emerge simultaneously and on the spur of the moment. It is purposeful human behavior which seems to be ruled at the same time by intuition, competence, design and chance. While improvising, the agent is able to frame and recombine features of her situation, so that they become resources for intervention. In a burst of action the contours of the problematic situation, plans for problem solving and the deployment of resources coalesce. Improvisation is intentional but extemporaneous, that is, happening almost unexpectedly (‘ex tempore’—outside the flow of time), and with little known cause or relationship. (p.78)

As improvisation, Tm-N is “simultaneously rational and unpredictable; planned and emergent; purposeful and blurred; effective and irreflexive; perfectly discernible after the fact, but spontaneous in its manifestation” (Nachmanovitch 1990 cited in Ciborra 1999).

It is important to note, however, that although Tm-N is emergent, it is also situated – as is improvisation – and it does involve planning sometimes, especially when it refers to situations in which the motivations leading to Tm-N lies in the choice or the obligation regions of the spectrum of Tm-N previously introduced. As Perry et al. (2001) and Su and Mark (2008) observe, T-Nomads frequently plan their work sessions away from their official workplaces and strategise about how they can be in contact with collaborators in the office and how to work in “dead time”. However, given the unpredictability of the process, they often veer off of their plans and respond to the circumstances they find themselves in. So it frequently goes down to situated actions\(^{29}\). In fact, the aforementioned authors note that T-Nomads often plan for the unpredictable, again showing association

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\(^{28}\) Practices that suit the current work task or context.

\(^{29}\) We must make a distinction between the notions of ecology of practices and situated action. The latter addresses how people respond to situations where unexpected events ‘force’ them to make use of their most natural skills, i.e. it comes down to effectively engaging in doing something according to the different variables impacting upon the performance of an action (Suchman 2007, pp.69-84). The latter refers to a mix of practices from diverse categories that can be employed to accomplish some desired outcomes and that are somehow related to each other. Some practices can be evoked due to specific needs manifested during certain situated actions.
between dynamic and emergent aspects of Tm-N and situated action. As Suchman (2007) explains:

...plans are resources for situated action but do not in any strong sense determine its course. Although plans presuppose the embodied practices and changing circumstances of situated action, the efficiency of plans as representations comes precisely from the fact that they do not represent those practices and circumstances in all of their concrete detail [...] A great deal of deliberation, discussion, simulation, and reconstruction may go into such a plan. But however detailed, the plan stops short of the actual business... (p.72)

Although strongly related, Tm-N is distinct from the notions of improvisation and situated action in that it is specifically to do with the establishment (or use) of temporary workplaces and the accomplishment of work in multiple sites. Therefore, whilst improvisation and situated action elaborates on people’s reactions to and in determined situations, Tm-N accounts for the accomplishment of work tasks in and across various locations. It does include improvisation and situated practices, but it goes beyond them. It addresses the interaction of human behaviour and motivation and explores its relationship with mobile computer technologies, which afford people the possibility to work in a variety of locations; it encompasses practices to do with the mobilisation of human, informational and technological resources to different locations and the achievement of work from there.

2.5 SUMMARY OF THE CHAPTER AND FINAL REMARKS

This chapter explored four different perspectives on Tm-N found in existing literature: the technology-centred, the practice-centred, the place-centred and the work-life boundary-centred perspectives. Questions arise from each of those approaches that, from my point of view, prevent a more accurate understanding of Tm-N and its implications. I argue in this research that achieving such an understanding is important before trying to design any technological solutions or work environments for people involved with it, hence my work sets out to advance the understanding on the subject.

The findings from the literature and the development of fieldwork within this thesis pushed towards the elaboration of a new perspective on Tm-N, which I
introduced in section 2.4 of this Chapter and will be further supported by empirical evidence in forthcoming chapters. This perspective moves away from the notion of \textit{Tm-N} as a form of work or a work condition and it brings \textit{Tm-N} to the level of a process that is part of the lives of people who usually engage in work in and across several locations; a process that blurs the distinctions between work and non-work lives. Furthermore, this perspective associates \textit{Tm-N} with an \textit{ecology of practices} that are to do with the mobility of the workplace to and the accomplishment of work in multiple locations. The assemblage of actants, search for resources and integration with others are examples of categories of practices within this ecology, and people engage in them in a fuzzy and organic way.

Having presented an extensive literature review on the subject of this thesis and having introduced the main elements of the \textit{Tm-N} model that I present in this thesis, I now move to a discussion of the methodology I used to collect and analyse the data that allowed me to elaborate on the new perspective of \textit{Tm-N} that I argue for herein.
This chapter seeks to clarify the research strategy adopted in this investigation, situated within the qualitative research paradigm and close to the ethnographic tradition of enquiry. The chapter presents the rationale behind this approach and discusses why I consider it suitable to investigate the themes of this thesis. The chapter is also intended to (1) comment on the adequacy of the fieldwork data to answer the research questions posed in this thesis and (2) address some of its limitations.

The chapter starts with a discussion in section 3.1 of the most common examples of methodology to investigate $Tm-N$ adopted within the body of literature that I reviewed for this thesis, and of issues associated with it. After that, the ethnographically-informed approach employed in this study is detailed in section 3.2, which introduces the research methodology and discusses the research
paradigm under which the investigation was conducted. Section 3.2 also discusses my position regarding the ontological and epistemological assumptions underpinning the study, and briefly describes the techniques that were used for data collection and data analysis and the ways they were applied. In section 3.3 the chapter also briefly presents the pilot study performed prior to the main fieldwork, which was an important exercise to both identify some of the imminent challenges that would possibly emerge during the main fieldwork of the research and start outlining a new perspective on Tm-N presented as part of the contributions of this thesis.

Following the presentation of the pilot study, section 3.4 discusses the appropriateness of the empirical body of data generated from fieldwork to answer the proposed research questions. Finally, section 3.5 brings a critical reflection of the application of the methodology, discussing to what extent the methodology employed was successful, what could have been different and what the implications of following a different path might have been.

3.1 **COMMON APPROACH FOR INVESTIGATING Tm-N**

When it comes to understanding the meditational role of computer technologies in work settings and the dynamics of the work activities being supported, human-centred computing, research usually looks at the situated use of these technologies aiming at advancing such understanding towards the development of tools that can support people with their work more effectively and efficiently (O’Hara et al. 2001). Comprehending the factors behind technology usage and the user experience that it affords is a relevant aspect of the attempt to anticipate to some extent the ways in which new technological tools will be able to better support the users they target, how those users will appropriate such tools and how they will impact upon their lives (Perry et al. 2001; Randall et al. 2007).

In terms of Tm-N, researchers have pointed out that, in order to achieve a deep understanding of the different issues surrounding the matter, such as the relationships between these practices and place-making activities, or the meditational role that computer technologies play in getting work done at and across assorted locations, it is necessary to use novel and innovative research
methodologies that enable grasping the interrelationships and patterns among various individuals and technological tools dispersed across time and several geographical locations (Sheller and Urry 2006; Büscher et al. 2011; D’Andrea et al. 2011).

In addition to the need to capture the different facets of Tm-N, the need to direct the research focus towards the divide between the technical and the social and the need to attempt to better integrate research on the development of new technologies and on practices associated with their use in different contexts are well-acknowledged in the literature as a relevant element to accurately understand the situations for which it is intended to design (Plowman et al. 1995; Lyytinen and Yoo 2002b; Hagen et al. 2005).

In so doing, researchers frequently use methods based on direct observations and in-depth interviews to collect the data needed for drawing the necessary understanding on the topics they are interested in (Hagen et al. 2005), conducting what is usually called ethnographically-inspired studies (Normark et al. 2005; Rossitto 2009; Ciolfi et al. 2012).

Ethnography, in social science, is a tradition of enquiry\(^\text{30}\) that involves spending time in an environment observing people’s behaviours, actions and interactions, understanding the meanings constructed in that environment and making sense of everyday life experiences (Bryman 2008). Some authors argue that ethnography is not only a methodology for data collection, but the actual research comprised of the methodology and the presentation of the results in a thick description of the culture-share groups observed (Creswell 2007). For this reason authors such as the aforementioned prefer not to call their studies ethnographies, but rather ethnographically-inspired studies.

Using an ethnographic approach has become well-established, for instance, within CSCW in regard to the development of the necessary understanding to be applied to the design of new technologies that can address the users’ needs more accurately (Hughes et al. 1992; Randall et al. 2007; Rossitto 2009; Crabtree et al. 2012). That is the reason why researchers from the field acknowledge the

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\(^{30}\) A tradition of enquiry refers to a particular approach to research that applies a well-established methodology and leads to a particular product. It supports researchers to focus into a coherent process and influences the sampling strategies, the data collection methods to be employed and the approach to write up and present the findings (Creswell 2007).
importance of observing the use of technologies in real life situations, since social and environmental factors can impact significantly on the success or failure of the support that such technologies are designed to provide, especially when it comes to nomadic interactions (Lyytinen and Yoo 2002b; Ciolfi et al. 2005). As Pica and Sørensen (2004) put it, technology should not be treated as "a self-contained entity but rather as a highly contextualized tool which is affected by the social setting in which it is deployed and which in turn affects the social setting" (p. 2).

Looking at the literature, it seems that the use of combined methods is the most common way to go about researching Tm-N (Perry et al. 2001; Normark et al. 2005; Perry and Brodie 2006; Sheller and Urry 2006; Su and Mark 2008; Watts and Urry 2008; Büscher et al. 2011; D’Andrea et al. 2011). Researchers who set out to investigate the matter have been developing innovative methodologies in an attempt to grasp the most that they can from the fieldwork that they carry out to collect data to understand the particularities of the subject. These methodologies go from video recording participants’ movements and riding a bicycle at the same time, as Spinney (2011) does whilst conducting cycling research; becoming ‘la sombra’ (the shadow) of the participants and following them wherever they go, as Jirón (2012) suggests; and developing approaches to technology and ethnographic research techniques to assist the bodily skills that this kind of research demands, as Vergunst (2011) recommends. Hence, it seems that using diverse methods and methodologies to fit the particular context of mobilities investigated is the best way to gather different perspectives on the subject which would contribute towards a better understanding of it.

Hagen et al. (2005) report how researchers from HCI and CSCW communities have been responding to the challenges posed by investigations on the use of mobile technologies in different contexts. According to the authors, researchers use strategies such as mediated data collection, where different kinds of technologies are handed to participants who are expected to perform data collection themselves or to use/wear the technologies provided which will perform data collection automatically; simulated or enacted data collection, which has to do with collecting data about existing or potential use of the technology “through some form of pretending” (p. 4); and combined-method data collection,
where several methods are used in combination to collect data from several perspectives.

Therefore, I decided to follow the recommendations from the literature and to employ an ethnographically-informed approach with multiple data collection instruments as will be detailed in the next section.

3.2 The Ethnographically-Informed Approach Used for This Research

Realising some limitations of past and current research studies on Tm-N, which tend to focus on a particular aspect of the process (e.g. technology mediation, nomadic practices, the role of place or the blurring of work-life boundaries) or on specific types of work activities conducted by T-Nomads (e.g. collaborative writing activities within groups of students), I decided to approach this research from a holistic perspective. Therefore, I do not focus on specific situations or specific types of work activities, but I provide a rich account of nomadic lives by documenting everyday practices of the group of participants who participated in the fieldwork activities conducted as part of this investigation by means of extensive fieldwork encompassing the use of different data collection methods.

In terms of research strategy, this investigation falls under the qualitative research paradigm, which seems to be the best fit to the research purpose established at the beginning of the study, i.e. to achieve a deep understanding of issues concerning Tm-N in academic settings with regard to: (1) how engaging in Tm-N is part of the work-life of academics, (2) how different technological resources used to deal with the nomadic aspect of their lives may impact upon Tm-
N and (3) what issues may arise from engaging in it. The qualitative paradigm offers methods that allow researchers to grasp, hear, catch and comprehend the meanings of actions and occurrences (Creswell 2007) that, according to Schwandt (2007), are essential for good understanding to be achieved.

In order to allow for the collection of relevant data on the subject, I went on to spend time in the selected work setting talking, watching and participating in the work activities that the fieldwork participants engaged in, registering the different aspects of Tm-N which were observed during the data collection process.

The fieldwork design was developed in a way that allowed for triangulation so that trustworthiness and authenticity, which are quality criteria for qualitative research (Bryman 2008, p. 377-380), could be achieved. Trustworthiness encompasses elements such as credibility, transferability, dependability and conformability, which refer to the integrity of the findings and the avoidance of bias. Authenticity has to do with elements associated with the wider impact of the research such as fair representation of different viewpoints from the members of the setting investigated and ontological authenticity, which refers to the generation of new knowledge, i.e. authenticity is achieved if new knowledge is generated from the research through the analysis and representation of the participants' opinions on the topic researched (Bryman 2008).

Therefore, in an attempt to meet those two quality criteria of qualitative research: (a) several techniques were employed in combination for gathering data so that a thick description of the context explored could be provided while answering the research questions posed at the beginning of the investigation and (b) a well-defined methodology for applying those techniques was established in order to permit other researchers to judge the feasibility of the research process and to test it.

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32 As will become observable in the analytical chapters, the propositions and explanations are drawn from the different data sources collected during fieldwork. Frequently the quotes from interviews will be corroborated or contrasted with evidence collected in the shadowing sessions performed with the participants, further comments provided during the follow-up interviews and with excerpts from the diaries completed by the informants.

33 The term “bias” is used in this thesis to refer to imposing personal believes on the research outcomes or to influencing participants during the data collection so that the data collected artificially agree with those beliefs.

34 The entire fieldwork design was registered and compiled in a series of documents that were submitted to and approved by the Science and Engineering Faculty Research Ethics Committee at the University of Limerick (see Appendix I).
Notwithstanding the effort put into documenting the fieldwork design and the methodology used for the investigation, it would be somehow difficult to replicate the study presented in this thesis given that it is a qualitative study and consequently it takes account of the social settings and circumstances involved with the subject of investigation which are technically impossible to replicate. As Bryman (2008) puts it, when it comes to qualitative research “it is impossible to ‘freeze’ a social setting and the circumstances of an initial study to make it replicable” (p. 376). However, it is feasible to think that the research findings of this investigation can be potentially transferrable to similar work-settings, at least to some extent, as will be discussed in the concluding chapter of this thesis, where I reflect upon the transferability of the findings35.

In terms of my stance as a researcher, I conform with the five philosophical assumptions of the qualitative paradigm enumerated by Creswell (2007), as portrayed in Table 1 below, with a caveat. Although Creswell (2007) suggests that qualitative researchers should become an “insider” during the research process – and this is potentially possible especially when it comes to ethnographic research, whereby researchers may “go native” as some anthropologists did in the past (Bryman 2008) – I found it relevant to watch closely the role of the researcher. I agree that reducing the distance between researcher and researched is undoubtedly useful to collect richer accounts of the subject under investigation – and I find myself doing that frequently – but I judged it important for data analysis purposes to keep a certain distance and, most importantly, to acknowledge that I am not a true insider. Moreover, I found it pertinent to bring to the data analysis both the ‘emic’ and ‘etic’ perspectives, although I prioritised the ‘emic’ perspective, i.e. the participant’s perspective on the topic of the investigation. According to Fetterman (2008), this is a common approach among ethnographers. He notes that:

*Most ethnographers simply see ‘emic’ and ‘etic’ orientations as markers along a continuum of styles or different levels of analysis. Most ethnographers start collecting data from the ‘emic’ perspective and then try to make sense of what they have collected in terms of both the natives’ views and their own scientific analysis. Just as thorough fieldwork requires an insightful and sensitive cultural interpretation combined with rigorous data collection techniques, so too does good ethnography require both emic and etic perspectives. (p.289)*

35 See 7.3 of Chapter 7
## Technologically-mediated Nomadity in Academic Settings

<table>
<thead>
<tr>
<th>Assumption</th>
<th>Question</th>
<th>Characteristics</th>
<th>Implications for Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontological</td>
<td>What is the nature of reality?</td>
<td>Reality is <strong>subjective</strong> and <strong>multiple</strong>, as seen by participants in the study</td>
<td>Researcher uses quotes and themes in words of participants and provides evidence of different perspectives</td>
</tr>
<tr>
<td>Epistemological</td>
<td>(1) How do we learn about the world? (2) What is the relationship between the researcher and that being researched?</td>
<td>(1) Social world is understood through <strong>interpretations</strong> of contextualised actions (2) Researcher attempts to <strong>lessen</strong> distance between himself or herself and that being researched.</td>
<td>(1) Researcher includes his or her own interpretation in conjunction with the interpretations of the participants (2) Researcher collaborates, spends time in the field with participants, and becomes an &quot;insider&quot;</td>
</tr>
<tr>
<td>Axiological</td>
<td>What is the role of values?</td>
<td>Researcher acknowledges that research is value-laden and that <strong>biases</strong> are present</td>
<td>Researcher openly discusses values that shape the narrative</td>
</tr>
<tr>
<td>Rhetorical</td>
<td>What is the language of research?</td>
<td>Researcher writes in a literary, informal style using <strong>personal</strong> voice and uses qualitative terms and limited definitions</td>
<td>Researcher uses an engaging style of narrative, may use first-person pronoun, and employs the language of qualitative research</td>
</tr>
<tr>
<td>Methodological</td>
<td>What is the process of research?</td>
<td>Researcher uses <strong>inductive</strong> logic, studies the topic within its context, and uses an emerging design</td>
<td>Researcher works with particulars (details) before generalizations, describes in detail the context of the study, and continually revises questions from experiences in the field</td>
</tr>
</tbody>
</table>

| Table 1. Philosophical assumptions of the Qualitative Paradigm used for this thesis – Adapted from (Creswell 2007, p.17)|

Therefore, in terms of **ontology**, this research is **constructionist**, i.e. social entities are considered social constructions generated from social actors’ actions and perceptions – one should have this in mind when reading the data chapters, where I attempt to provide evidence of different perspectives from the participants, which sometimes are conflicting. In terms of **epistemology**, this research is **interpretivist**, i.e. the social world is **understood** through interpretations of the **meanings** conveyed by contextualised actions of the social entities, and such interpretations are constructed on the basis of both ‘emic’ and ‘etic’ perspectives,

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36 In the original table, the author presents only question (2) in the row for the **Epistemological** assumption. I added question (1) as I find relevant to clarify that the epistemological assumption is about the nature of knowledge and about how we learn about the world (Bryman 2008)
with focus on the ‘emic’ point of view. Finally, in regard to methodology, the research is inductivist, i.e. propositions are generated inductively from the data collected.

Having clarified my ontological and epistemological stances, I will move on to describe the sampling strategies, the data collection methods used for the study, the data analysis employed for it and comment on my use of anecdotes and vignettes to present the findings of the investigation.

### 3.2.1 Participant Recruitment

*Purposive, self-selection* and *snowball* sampling strategies were employed in the search for participants. The first strategy has to do with selecting cases that can provide evidence that may help illuminate the subject of study. The second one is about selecting cases that are willing to participate in the research, which can speed up the search for participant. Finally, the third refers to recruiting possible future participants through the contact of current participants (Bryman 2008).

The subjects for the study were selected from the University of Limerick’s (UL) staff. There were also several attempts to recruit participants from two other local colleges of Higher Education: the Limerick Institute of Technology (LIT) and Mary Immaculate College, but unfortunately nobody from those institutions expressed an interest in taking part in the research. Institutions outside Limerick were not considered since working in Limerick was one of the sampling criteria of the fieldwork due to the focus of the Nomadic Work/Life in the Knowledge Economy Project, of which this study is part, on the Limerick region.

The email distribution lists of all three institutions were used for widely advertising the study and to recruit participants. Since I did not have access to the distribution lists of LIT and Mary Immaculate College, personal contacts in those institutions were used to circulate the call for participation. In addition to this, members from the Nomadic Work/Life in the Knowledge Economy team also helped the recruitment of participants by making personal contacts with potential participants they knew.
3.2.2 Sample Description

The sample selected featured sixteen people (excluding 2 persons who took part in the Pilot Study), of which eight were males and eight females. Participants fell into different age groups, ranging from the mid thirties to the late fifties, working in different academic positions such as full/part time lecturers or research fellows and in different departments. Thirteen of the participants were full time lecturers, two of them were part-time lecturers, and one of them was a research fellow with teaching and research responsibilities. As for affiliation, ten of them were affiliated with the Computer Science & Information Systems Department; three were affiliated with the Department of Sociology; one was affiliated with the Department of Electronic & Computer Engineering; one with the School of Languages, Literature, Culture and Communication; and one with the Centre for Teaching and Learning. The fact that participants were from different backgrounds and held different affiliations enabled an exploration of diversity within the target group, a common practice among research studies on the matter (Perry et al. 2001; Brown and O’Hara 2003; Perry and Brodie 2006). Figure 4 visually represents the sample distribution according to some of the variables previously mentioned, whilst Table 2 presents the list of the participants of the fieldwork and provides some background information about each of them.

![Figure 4. Sample Distribution at a Glance](image)

37 The even number of males and females was spontaneous, i.e. the sampling process was not directly towards selecting an even number of male and female participants.
There were several attempts to get more participants involved with the study, but unfortunately those attempts were not successful, given the busy agendas of members from the target group. However, the relatively small number of participants worked in favour of the research outcomes as it contributed towards a deeper and more detailed investigation of each individual and their work practices, as Brown and O'Hara (2003) suggest that it is possible to do when small groups of participants are used. A discussion on the limitations of the body of data collected for this thesis and on why I am confident that the sample of the study is sufficient for answering the research questions I propose to answer is provided in section 3.4.

<table>
<thead>
<tr>
<th>Fictional name(^{38})</th>
<th>Affiliation</th>
<th>Irish/Non-Irish</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom</td>
<td>Computer Science</td>
<td>Non-Irish</td>
<td>Full-time</td>
</tr>
<tr>
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<td>Full-time</td>
</tr>
<tr>
<td>Claus</td>
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<td>Non-Irish</td>
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</tr>
<tr>
<td>Gabriel</td>
<td>Computer Science</td>
<td>Non-Irish</td>
<td>Full-time</td>
</tr>
<tr>
<td>Cathal</td>
<td>Computer Science</td>
<td>Irish</td>
<td>Full-time</td>
</tr>
<tr>
<td>Josh</td>
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<td>Irish</td>
<td>Full-time</td>
</tr>
<tr>
<td>Marc</td>
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<td>Full-time</td>
</tr>
<tr>
<td>Philip</td>
<td>Electronic &amp; Comp Engineering</td>
<td>Irish</td>
<td>Full-time</td>
</tr>
<tr>
<td>Kate</td>
<td>Language, Literature, Culture and Communication</td>
<td>Irish</td>
<td>Full-time</td>
</tr>
<tr>
<td>Maeve</td>
<td>Sociology</td>
<td>Irish</td>
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</tr>
<tr>
<td>Bridget</td>
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<td>Irish</td>
<td>Full-time</td>
</tr>
<tr>
<td>Aoife</td>
<td>Sociology</td>
<td>Irish</td>
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</tr>
<tr>
<td>Elaine</td>
<td>Teaching and Learning</td>
<td>Irish</td>
<td>Part-time</td>
</tr>
</tbody>
</table>

Table 2. List of Participants

3.2.3 Data Collection Methods Applied and the Body of Data Generated

One of the methods used for data collection was shadowing, which consists of ‘following selected people in their everyday occupations for a time’ (Czarniawska 2007, p. 17). Shadowing allows the researcher to move alongside the participants and, therefore, to observe the issues related to Tm-N as they arise at the different locations where they occur. This method was used to gather information about the situated aspects of using technology for dealing with work activities across

\(^{38}\) Fictional names are used throughout the thesis to ensure confidentiality.
different sites. As an observational method, shadowing is a powerful way to document situated activities and to collect evidence of what triggers such activities and how they are shaped (McDonald 2005).

In addition to shadowing, in-depth interviews (Hermanowicz 2002) were also carried out. They were performed in two rounds, following a similar strategy used by Perry et al. (2001) among others (Brown and O’Hara 2003; Mazmanian et al. 2006; Su and Mark 2008). In-depth interviews allow participants to explain how they see and understand their world, and the researcher to probe unclear statements. Not imposing a rigid structure to the data collection process affords an organic approach whereby natural conversations may be carried out and the participants may feel more comfortable to provide their opinions on the topics and elaborate their thoughts.

The first round of interviews was performed before the shadowing sessions. The interviews were used to get a sense of the participants’ work and non-work lives by: investigating their concept of work (i.e. asking them about when they considered to be working and when they considered not to be doing so); inquiring about the different locations where they usually conducted work; asking about which work activities they considered to be bound to specific locations and which ones they considered to be flexible in terms of where and when they could be performed; seeking the reasons that, according to them, would make work activities bound to specific locations; investigating the criteria they used for choosing a location to carry out work when the activity was not bound with a specific location; asking them about which kinds of computer technologies they used to support the development of their work activities in different sites; and inquiring about how successfully those technologies were meeting their needs.

The second round interviews sought explanations about situations that were hard to comprehend in the shadowing sessions and issues related to the phenomena emerging from the data collected until then. Czarniawska (2007) and Chipchase (2005) mention the importance of considering additional techniques to shadowing in order to develop a more accurate understanding of the issues observed.

Finally, participants were asked to fill in a short diary recounting activities that they performed in a working day of their choice. They were requested, if possible,
to choose a day when they had to work away from the city where they live. Diaries are useful instruments for data collection within different fields of research as they allow researchers to look at actual activities occurring in a “slice” of people’s everyday lives, giving grounds for further investigation (Perry et al. 2001; Sellen et al. 2002; Ciolfi et al. 2005; Normark et al. 2005; Rossitto 2009). Participants were also asked to submit their diary before the second round interview, when possible. When that occurred, it allowed me to be aware of the participants’ account of a working day of their lives and to address issues observed in the diary report during the follow-up interview.

Using these different data gathering instruments enabled the collection of a rich body of data\(^{39}\) with data from each source, complementing each other in the process of triangulation. The data collected not only allowed assessing how participants actually do their work on an everyday basis but also how they talk about it, how they integrate and make sense of it for themselves and how they see themselves as academics and T-Nomads. This was undoubtedly relevant for achieving a more complete account of the context, the actors, the tools they use, the way they use them and their motivations for doing so.

In summary, one interview and one shadowing session were conducted with nine participants throughout a period of nine months (starting in November 2010 and concluding in July 2011). Of the participants, six agreed to a follow-up interview that was performed some weeks after the shadowing session, and five filled in and submitted diaries for analysis. An extension of the fieldwork was performed for a period of 3 months (starting in October 2012 and concluding in December 2012). In the fieldwork extension, 7 new participants were interviewed and 5 participants (4 from the main fieldwork and 1 from the fieldwork extension) participated in 3 new shadowing sessions. Hence, the data collection process produced 16 interviews, 10 shadowing transcripts, 6 follow-up interviews and 6 diaries. Table 3, which is found on the next page, details the participation of each informant of the study in the data collection activities performed during this investigation.

\(^{39}\) One data set collected from one of the fieldwork participants composed of one interview, one shadowing transcript, two diary reports and one follow-up interview is provided in Appendix II and demonstrates the richness of the data collected during the fieldwork for this research.
Technologically-mediated Nomadicty in Academic Settings

<table>
<thead>
<tr>
<th>Participant</th>
<th>Interview</th>
<th>Shadowing</th>
<th>Follow-up Interview</th>
<th>Diary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aoife</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Bridget</td>
<td>✓</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cathal</td>
<td>✓</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Claus</td>
<td>✓</td>
<td>3 ½ working days</td>
<td>✓</td>
<td>1</td>
</tr>
<tr>
<td>Elaine</td>
<td>✓</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gabriel</td>
<td>✓</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>James</td>
<td>✓</td>
<td>3 ½ working days</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Jenny</td>
<td>✓</td>
<td>3 ½ working days</td>
<td>✓</td>
<td>1</td>
</tr>
<tr>
<td>Josh</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Kate</td>
<td>✓</td>
<td>½ working day</td>
<td>✓</td>
<td>1</td>
</tr>
<tr>
<td>Lucy</td>
<td>✓</td>
<td>3 working days</td>
<td>-</td>
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</tr>
<tr>
<td>Maeve</td>
<td>✓</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Marc</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Philip</td>
<td>✓</td>
<td>½ working day</td>
<td>✓</td>
<td>1</td>
</tr>
<tr>
<td>Shannon</td>
<td>✓</td>
<td>3 ½ working days</td>
<td>✓</td>
<td>2</td>
</tr>
<tr>
<td>Tom</td>
<td>✓</td>
<td>½ working day</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 3. Overview of the Data Collection Activities undertaken by each Participant

Interview length ranged from one to two hours (average one and a half hour). Interviews were audio recorded and transcribed afterwards using the Intelligent Verbatim level of granularity, where most mumbling expressions (e.g. ‘ums’ and ‘ers’), filler phrases (e.g. ‘you know’) and stumbles are kept out, but everything else is transcribed as said. Around 55% of the interviews were transcribed by me and 45% of them were transcribed by a hired transcriptionist. Between interviews and follow-up interviews, about 30 hours of audio were recorded and transcribed. As for the shadowing sessions, the ones conducted for the main fieldwork lasted for about half a day of work (around 4 hours), whilst the ones for the fieldwork lasted for a full day of work (about 8 hours). Five participants were shadowed for 3.5 days of work (the ones who took part of the fieldwork extension) and 5 were shadowed half a day of work. In total, about 160 hours of observation were conducted throughout the fieldwork. Observations were documented through field notes and were transcribed (i.e. were put in a narrative format) by me straight after the observation took place.

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40 Total number of working days for which each participant was shadowed
41 Number of diaries submitted by each participant
3.2.4 Data Analysis Approach Used for the Thesis

The conceptual and theoretical explanations generated in this study are based on an inductive thematic analysis which is an exploratory approach to data analysis in which themes are identified from the data that in turn are coded according to what the analyst judges relevant to the emergent themes (Schwandt 2007). After that, connections between the identified themes and the subject of the study are explored and propositions and explanations are generated (Ayres 2008; Gibson and Brown 2009). In this way, Verstehen about the research topic can be constructed.

Verstehen is a term that refers both to human sciences aims and methods (Schwandt 2007, p. 314). The term was first used for designating such a concept in the nineteenth century and it has been refined over time, always with an emphasis on the importance of understanding the meanings behind agents’ or actors’ actions so that the subject under investigation can be shed light on. Weber (1968, cited in Schwandt 2007), for instance, is well-known for his efforts to establish an interpretive sociology where Verstehen is a central factor.

It can be said that most qualitative research allows for the achievement of Verstehen. Creswell (2007), for instance, argues that if complex and detailed understanding of an issue is needed, qualitative research is the best way for achieving it. It is worth pointing out the difference between the concepts of understanding and knowing: understating is achieved when the meaning of something is captured and processed so that it is comprehended in context. On the other hand, knowing refers to the awareness of the existence or occurrence of something (Schwandt 2007, p. 303).

Schwandt (2007) says that a “taken-for-granted assumption in qualitative inquire is that it studies meaningful social action” (p. 185, underline added/emphasis in original). This means that qualitative research is concerned with the underlying causes of social actions, which need to be framed within the context where they take place so that the actors’ motivations and intentions can be grasped and, then, understood. Therefore, once one has the data s/he becomes aware of some the issues on the topic which s/he has been collecting data about.
Only after careful consideration of the themes and their interpretations one begins to understand the topic.

In my search for achieving a further understanding of Tm-N, I decided to use a thematic analysis to approach the empirical data I collected through fieldwork. Thematic analysis is a “data reduction and analysis strategy by which qualitative data are segmented, categorised, summarised, and reconstructed in a way that captures the important concepts within the data set” (Ayres 2008, p.867, underline added). This strategy is different from that of Grounded Theory (Glaser and Strauss 1967; Strauss and Corbin 1998) in that it “is not designed to uncover an essential structure or to develop a grounded theory” (Ayres 2008, p.868), although it does afford the identification of the relevant patterns in the data and the description of the overarching characteristic that connects them, so that meaningful and useful explanations can be generated (Schwandt 2007; Gibson and Brown 2009).

The difference between the two strategies is evident since the earlier stages of the data analysis. For instance, thematic coding focuses on data reduction (Miles and Huberman 1994), whilst axial and open coding strategies focus on enriching the data through the inclusion of the researchers’ insights on the analysis that they are carrying out and their reflections on the theory that gradually emerges from the data (Strauss and Corbin 1998; Creswell 2007).

Since my aim was not to come up with a grounded theory at the end of the data analysis process – but rather to provide a detailed account of the nomadic aspect of the work-life of academics – thematic analysis seemed to suit well my purpose. Hence, following the steps of a thematic analysis, I went on to identify the patterns present in the data that could be used to answer the research questions that I sought to answer.

The inspection started with the elaboration of a short list of “apriori codes” (Gibson and Brown 2009, p.132), which were generated from the research questions previously posed at the beginning of the investigation, the theoretical readings on mobility and Tm-N, and from the semi-structure interview guide designed for the data collection process. As Ayres (2008) notes:

“In thematic coding the analyst frequently begins with a list of themes known (or at least anticipated) to be found in the data. When data for thematic analysis are collected through...
The list of *apriori codes* elaborated for the data analysis is available on Appendix IV.

Before being submitted to the analysis process, each data artefact generated during the data collection phase (i.e. interview, follow-up interview and shadowing transcripts as well as the diary report completed by the participants) was summarised. This was done by repeatedly reading and re-reading each of them, as is common during the coding process of qualitative data (Benaquisto 2008), and identifying the potential elements that could be used for answering the research questions. In the end of the summarisation process, each artefact generated a list of bullet points with excerpts of data, which I used afterwards to trace the entry back to the original artefact. Appendix III portrays the results of the summarisation process carried out over the data artefacts presented in Appendix II.

Once I had the summarised artefacts, I went through them recursively, looking for the occurrences of *apriori codes*. As I engaged in this activity, I expanded the list of *apriori codes* by including “*empirical codes*” (Gibson and Brown 2009, p.132) that emerged from the data, i.e. codes that I had not anticipated. In the end of this activity, when I had checked and rechecked each summarised artefact, I had an extensive list of *codes* and *sub-codes*, which can be seen in Appendix IV, as well.

Since this list was relatively large, I revisited the summarised artefacts a couple of more times as well as the literature that I draw on. In so doing I was able to identify the codes that were related to data that would potentially allow me to advance the literature on *Tm-N*. After concluding the step of the data analysis, I had a revised list of empirical code upon which I reflected carefully in a process that led to the establishment of main themes for which I account in this investigation (see Appendix IV for the revised list of empirical codes, the notes on the reflection that I carried out on them and the themes and sub-themes established in the end).

During this step of the analysis I was able to refine the relationships between the identified themes, which had been evolving throughout the first steps of the data analysis. Furthermore, the *Tm-N* perspective that I herein present started becoming evident.
Three main themes, or “code families” (Gibson and Brown 2009, p.138), were identified in the end of the process: driving forces of Tm-N, the notion of Tm-N, and impacts of engaging in Tm-N upon work and non-work lives.

The first theme encompasses issues on the different motivational forces that lead people to mobilise the workplace to different locations and accomplish work from there, i.e. to engage in Tm-N. The data analysis pointed to a Tm-N spectrum ranging from choice and opportunity to obligation, and its relationship with the emergent aspect of the nomadic process, also identified during the data analysis. The findings relative to this theme are presented in Chapter 4. The second theme brings together issues (or sub-themes) on the dynamic and mediated aspects of Tm-N. Through the data analysis that I performed I observed that these aspects manifest in the form of a process that unfolds through the use of an ecology of practices that is do with the mobility of the workplace to different locations where work gets accomplished. The findings associated with this theme and sub-themes are presented in Chapter 5. Last but not least, the third theme pertains to issues on the blurring of the work and non-work lives perceived by T-Nomads and the perceived pros and cons associated with such blurring. The findings associated with this third theme and its sub-themes are grouped in Chapter 6.

Having identified the themes and sub-themes in the data, I moved on to code the summarised artefacts that I produced at the beginning of the data analysis and to organise them in tables aggregating data from different participants and the different data sources with which they provided me (i.e. interview, shadowing, follow-up interviews and diaries). Excerpts of the data cross-tabulation that I elaborated are found in Appendix V. In doing so, I was able to find empirical evidence to support the new perspective on Tm-N that emerged as I engaged in analysing the data and that I detail in the following data chapters.

3.2.5 The Use of Anecdotes and Vignettes to Present the Findings

When it comes to writing up, ethnographies traditionally produce a theory which is expressed in a narrative form that entails rich and detailed descriptions of the culture-share observed, through which researchers usually attempt to provide a holistic account of that culture, including the social, cultural and economic aspects of the setting explored (Creswell 2007). Given the ethnographically-informed
approach adopted in this research, reporting the findings in the format of a realistic tale, as is commonly done in ethnographies (Bryman 2008, pp. 684-685), seemed to be a natural path to follow.

In realistic tales researchers try to: (1) convey the experiential authority they acquire as they go on to carry out their fieldwork; (2) present the typical forms (i.e. patterns of behaviour and understanding over specific topics) that they observe during it; and (3) express the native’s point of view on the matter investigated. Thus, I opted to use anecdotes and vignettes in order to achieve those three characteristics of realistic tales.

By using anecdotes and vignettes from the data to illustrate the theoretical explanations, I seek to give voice to the participants and to grant them the status of co-creators of the knowledge herein presented. As Sharp et al. (2006) put it, “including these kinds of specific stories gives credibility and adds weight to the summary of claim[s]” presented at the end of the investigation, i.e. it contributes towards attributing trustworthiness to the findings. Furthermore, anecdotes and vignettes are seen as very useful in conveying the rationale behind the explanations presented and may help readers to understand the points that are being made (ibid.).

Although interpretative omnipotence is often regarded as a characteristic of realistic tales, it is not my purpose to claim that the results of this study are final and absolute and that there is no alternative interpretation to the findings presented here. As will become clear throughout the data chapters, Tm-N is a complex matter and there still remain open questions that should be answered for a better understanding of related issues. Nevertheless, I do claim that the theoretical explanations herein portrayed are plausible and they do advance the state of the art on the subject.

3.3 PILOT STUDY

In order to draw a first understanding about how Tm-N occurs in academic settings and in order to test and practice some of the techniques selected for the data collection process, I conducted a pilot study in early 2009. The study consisted of an informal interview with a Professor from the Department of
Electronic and Computer Engineering and two shadowing sessions summing up over 12 hours of observations with a lecturer from the Department of Sociology, both at UL. Both the informal interview and the shadowing sessions were documented through note taking and transcribed immediately after the exercise.

Unsurprisingly, the relevance of the support offered by network-enabled technologies in easily moving the workplace to and across different locations emerged as a strong theme in the data. For instance, the interviewee mentioned that he used Moodle\textsuperscript{42} for teaching purposes and that he could work with students via the system when he was at home or when he was travelling, for example. In addition to that, he mentioned that students could submit things through Moodle wherever they were and he could mark them, grade them and give the students feedback through the tool from anywhere he could get hold of a laptop and an Internet connection. When he was discussing his use of computer technologies for collaborative projects with people located all over the world, he mentioned that Moodle could also be used like a collaborative desktop that could be accessed in different places and at different times. He said that sometimes, when his partners know how to use the tool effectively, they set up the project on Moodle and have it as their meeting point. This information brought to the fore the mediated nature of \textit{Tm-N}.

In the shadowing session it was possible to observe some of the situated aspects of \textit{Tm-N}. For instance, I observed the second participant moving across several locations on campus, setting up temporary workplaces and developing her work activities at those locations. The three foci of the nomadic strategy proposed by Su and Mark (Su and Mark 2008), i.e. \textit{assemblage of actants, seeking resources} and \textit{integrating with others}, came into play here. For example, the participant assembled the actants that she would need in classroom, sought and accessed digital resources from there, integrated with the students and went on to develop her work activities. However, the observations carried out during the pilot study suggested that \textit{Tm-N} goes beyond these three categories of practice, pointing towards a new perspective on the matter which seemed to be a dynamic process driven by different motivational forces and emerging from what may be called an

\textsuperscript{42}Moodle is an open source Course Management System (CMS). For more information refer to \url{http://moodle.org/}. 
ecology of practices (see section 2.4 of Chapter 2). Figure 5 depicts a situation where a temporary workplace was established in one of the locations that the participant visited during one of the days she was shadowed.

![Figure 5. Temporary Workplace in the Library](image)

In that situation, she went to the library in order to borrow books she needed to prepare some of her forthcoming lectures. As she was there, she decided to perform a test that she had been planning to run out of her office since the beginning of the afternoon. She wanted to test some functionalities of SULIS\(^{43}\) on a public computer because she had been getting complaints from her students saying that some of the resources she had made available to them were not appearing on the system. She wanted to be sure that computers other than her own would be able to display such resources. She went on to say that she usually has to do that since sometimes the system acts differently on her PC and on public PCs. The physical structure was comprised of the library room, a desk and a computer to become a temporary workplace. As she sat down, she laid down her iPhone and started interacting with the resources in the environment. On that occasion, her workplace was transferred to the library, where time and other resources where suitably available to carry out some of their work activities. She used the available computer to check whether the teaching resources were being

\(^{43}\) SULIS is the UL’s official CMS, which she was using to make available resources for students from a course she was teaching in that semester. For more information on SULIS, visit [http://sulis.ul.ie](http://sulis.ul.ie)
Technologically-mediated Nomadicity in Academic Settings

properly shown. Several other situations where computer technologies were used for experiencing a location and developing work-related activities could be observed in the shadowing sessions. It was insightful to observe these ways in which the workplace becomes a fluid notion through \( Tm-N \) that can be configured in a few seconds and disassembled a few seconds later.

Interestingly, after running the test she had planned to run, the participant opened her SULIS inbox and started to send notifications to some students and responding to some questions she had received, an activity that she had not planned to perform there and then. This suggested that there were different forces driving nomadic process at that moment: firstly, she was forced to go to the library to collect the books she needed and to check whether computers other than the one in her office would display the class material – she would not be able to achieve that part of her job in the office; secondly, she opportunistically engaged with checking her e-mail, something that she had not planned but that turned out to be possible and feasible at that place and time.

In addition, the scenario described above showed how the participant was using computer technologies to deal with the nomadic aspect of her work. Moreover it illustrated how sometimes technologies can be disruptive of her work: for instance, taking into consideration the issue with SULIS, although the participant would have access to the same system through her office computer, she needed a different computer to check whether the system worked consistently. Despite the fact that everything was working properly in her office, students were complaining that they could not get what they needed to work at the locations where they were. This motivated her to test whether she could replicate the problem out of her office so that she could sort it out; since she could not, she ended up contacting the university’s information and technology division for help.

Notwithstanding the relevance of the aforementioned observations, the most striking observation from the pilot study was the reduced focus on face-to-face meetings. Both participants made clear that this kind of meeting is interesting only in specific situations as, for example, when a totally new project starts and the participants lack common ground, or when a new partnership is established and they have never met the partners before.
In conclusion, performing the pilot study was insightful and it helped me to shape the research questions for this investigation as well as to pose new questions regarding some inconsistencies between the literature and the observations within the work setting explored. Also, the pilot study highlighted some of the challenges that would be faced during the research and helped shape the fieldwork design to avoid some of them, as will be discussed in the next sections.

3.4 **On the Sample, the Fieldwork Data and their Adequacy to Answer the Research Questions**

Given the relatively small number of participants in this study, it is necessary to comment on the adequacy of both the sample size and the body of data generated to answer the research questions of this research. Although having a relatively small sample is not necessarily detrimental in qualitative research, as noted by several authors who write on the matter (Miles and Huberman 1994; Creswell 2007; Bryman 2008), it is fundamentally important to seek *data saturation*, i.e. to try to achieve the point in which the collected data allows patterns to be consistently identified and robust explanations of the subject matter to be generated (Saumure and Given 2008). On the basis of the data collection approach used and on the outcomes of the data analysis performed, I am confident that the research sample and the body of data that was generated from it are sufficient to answer the research questions herein investigated.

I am conscious that, in order to answer the research questions posed in this investigation effectively, it is very important to understand the daily work-life of members of the cohort addressed. Ideally, fieldwork studies on *Tm-N* should be conducted on the basis of extensive periods of observation, with the researcher shadowing the participants for several days (or months, as anthropological

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44 It is worth clarifying that, as Saumure and Give (2008) emphasises, “reaching saturation is considered to be somewhat relative in that if researchers perpetually collect new data and look for new information, eventually something novel and pertinent may emerge. Nonetheless, researchers do need to decide when collecting new data will result in diminishing returns with new data adding little to the emerging theory” (p.195).
ethnographers would do) and incorporating observational data of *T-Nomads* in their homes, cars, trains, and airplanes across potentially different continents, at all hours; however, as recurrently observed by some authors (Su and Mark 2008; Rossitto 2009; Büscher et al. 2011), this would be prohibitively expensive for the researcher and, additionally, shadowing would be intrusive for *T-Nomads*, as the borders of their personal and work lives are blurred. To address this issue, researchers pursuing investigation on *Tm-N* commonly use a range of data collection methods combined to supplement the observational deficit, as noted in section 3.1. Hence, I decided to use a combination of assorted data collection methods to guarantee the necessary understanding of my participants’ work-life so that I could comprehend how *Tm-N* is made in their work-lives, how technologies may affect the process and what issues can arise from engaging in it.

If the half-day observations conducted for five of the fieldwork participants, or even the 3.5 days of observation carried out with other five participants are taken in isolation, one could argue that the collected data are potentially idiosyncratic and atypical. However, I would like to draw attention to the fact that the observations are only a small fraction of the data collected. In addition to the observations, I interviewed every participant at least once to collect accounts of their everyday work-life. As illustrated by the examples in Appendix II, the interviews carried out with the participants produced very rich data, as did the shadowing sessions. The observations performed are used in this investigation as supplements to the interviews and follow-up interviews performed, as becomes evident throughout the analytical chapters. Moreover when comparing the results from observations with the data collected through interviews, there is significant overlapping of the emergent themes, which suggests that the window of observation used for the fieldwork in fact allowed for collecting representative data on what participants typically do.

In trying to gain insight into the “typical” workday of the participants I deliberately asked them about this during the first round interviews – inspired by a similar approach taken by Salazar (2001). Although one may argue that asking the informants to describe their typical workday has the potential to provoke ‘espoused theories’ that reflect more what the informant believes as typical, than what they typically do, the triangulation with the observational data would allow
me to identify if such a thing was happening and, if it was, different research questions could potentially be raised.

In terms of the typicality of a day of the participants’ work-life, participants recurrently reported that they would not be able to describe a single typical day, since there was great variability associated with their daily life (see section 5.2 for a discussion on the dynamic attribute of the work-life of academics). Instead, they described what, in their own words, would be their typical daily work-practices. The fact that the participants’ descriptions of their common work practices were consistent across all of the informants was seen as evidence of the existence of a pattern in the data. For the shadowing sessions, I asked participants to choose a day when they expected to engage in activities that are common in their everyday life. Therefore, the day of choice was, in the participants’ mind, a typical day of work for them. Although one could once again argue that by asking the participants to choose a typical workday I potentially gave room to a biased choice, during the shadowing I could observe that what the participants did was to a large extent consistent with their description of their common daily work practices, strengthening some patterns that start emerging from the data.

While I could ask whether participants were “acting” in order to show exactly what they told me they usually do, I think this is very unlikely since the shadowing happened a couple of weeks after the interview and given their busy lives, participants were unlikely to remember everything they told me during the interview. In addition, at the end of the shadowing and in the follow-up interviews, most participants assured me that what I had seen was “what they normally do”. Some even seemed embarrassed as the shadowing exercise progressed thinking that what I had observed was boring, not interesting, etc., indicating that they were not trying to “look good”. Furthermore, each of the participant observations resonated with each other, once again strengthening the patterns that were arising from the data.
To ensure that the collected data were representative of the participants’ work-life, I carried out a fieldwork extension where I focused on increasing the shadowing time with the fieldwork participants. For the fieldwork extension, I took a different approach: I did not ask the participants to choose a typical day of work for me to observe them. Interestingly enough, the data I collected from the new shadowing sessions were very similar to the ones I previously observed. Hence, based on the evidence above, I am confident that the data that I collected from the participants are representative and, given the patterns that I identified during the data analysis and the empirical evidence that yield the new perspective on Tm-N that I present in this thesis, I feel that the data I have collected are sufficient to answer the research questions of this thesis properly.

Notwithstanding the argument above, I consider it is important to comment on the limitations of the body of data used for this research. Although the collected data are sufficient to answer the research questions posed in this investigation, it would be ambitious at the very least to say that they account for all the nuances of Tm-N. A simple example illustrates how such a claim is questionable: the collected data do not account for all the possible environments in which academics can possibly engage in work, given the small scale of the observational part of the study. Another relevant limitation is that only one participant allowed me to their houses, so I could not observe in situ how work is effectively accomplished at home and what situated actions are involved in the negotiation of work-life boundaries.

45 Initially, the fieldwork for this study was comprised of nine participants, who had been interviewed at least once – some informants participated in a follow-up interview – and typically shadowed for about half a day of work – some of them were shadowed for a full day of work. Even though, the data collected from these nine participants already provided me with strong evidence that supported the claims of this thesis, I engaged in extending my fieldwork, following suggestions provided by renowned researchers with whom I had contact, who prudently pointed out that I could possibility be missing some relevant information that could considerably impact upon my findings. During the fieldwork extension, I addressed all the participants of the fieldwork and asked whether they would accept to participate in other two or three shadowing sessions, now for a full day of work. Four of them kindly accepted the request, 2 of them could not participate in it due to time constraints, 1 was in maternity leave, 1 was no longer working in Limerick and 1 did not respond to my contacts. For the 4 participants who accepted to take part in the fieldwork extension, the shadowing time were increased in 3 full days of work. In addition to these 4 participants, 9 new participants were addressed – 7 of whom accepted to take part of an in-depth interview, which was based on the emergent findings of the research, as suggested by the same researchers who suggested me to extend the fieldwork to corroborate the findings. From the new participants, 1 accepted to participate in the shadowing activity, being observed for 3 full days of work. Although no significant novel data was collected – the data of the fieldwork extension resonated with the data collected during the main fieldwork – the exercise was undoubtedly valuable to get a more nuanced account of Tm-N.
If I had the opportunity to do so, I could possibly have more insights in issues regarding the blurring of work-life boundaries. These are only a few examples that illustrate the limitations of fieldwork data of this research. Therefore, there are still open issues to be investigated by future research on the matter.

3.5 REFLECTIONS ON METHODOLOGY AND FINAL REMARKS

Reflecting on the methodological choices for this research, I argue that they served their purpose well. The use of different data collection methods combined enabled me to gather a rich body of qualitative data addressing the research questions and raising further questions about a number of related issues that could be explored in future work.

Since this investigation aimed at providing a deep understanding of the notion of Tm-N and the impact that computer technologies have upon it, the ethnographically-informed approach applied to it was key. By talking with the participants and observing them carrying out their productive activities in and across different locations, I was able to understand how they made sense of the nomadic aspect of their work and non-work lives and their motivations to engage in Tm-N. The use of interviews and shadowing as the two main data collection instruments was extremely useful. Whilst the interviews allowed me to understand how participants made sense of their Tm-N and to gather general information about their movements and work activities, the shadowing sessions allowed to collect situated data on the matter and to observe things that the participants would not mention during the interviews, possibly because they are so deeply ingrained in their lives that they do not pay attention to it. This deep understanding would not be achieved if this research was approached under the quantitative paradigm or if different data collection methods were used. Hence, this is one of the things that I would not change in the study.

The iterative quality of the data collection process allowed for a better understanding of the emergent issues and for filling in the gaps left in previous data collection activities, as previously discussed in this Chapter. For instance, on the occasion of the first round interview and the shadowing session, one of the participants was pregnant. She mentioned that she would not work on trains or in
certain environments like cafeterias or hotels because she could not concentrate in those locations. Three months after, when she granted the follow-up interview, she had had her baby. During the follow-up interview she acknowledged that she was forcing herself to work on trains and in the locations she mentioned she would not engage with work so that she could “buy” some more time to spend with her newborn child.

With regard to the transcription of the interview data, a considerable amount of the audio recorded was transcribed by a hired transcriptionist (around 45%). Although hiring a transcriptionist was important to get all the data transcribed on time before the second round of interviews, I would ideally have preferred to transcribe all the data myself had I had the time. I realised that the depth of understanding that I gained when transcribing an interview would be significantly higher than the one I got when reading the interview transcripts. I needed to read the transcript a couple of times to achieve the same level of understanding and to get to know the data as well as I would know something that I had transcribed personally.

Last but not least, the use of diaries to extend the data collection to situations where I was not able to be physically present was valuable and provided some relevant information that allowed me to understand some of the issues regarding the subject of investigation. However, asking for participants to report on a single day of their lives seemed to be very limited in retrospect. I would consider asking the participants to keep a diary for a longer period of time, although I am aware that this would impact in the return rate of the diaries, especially among participants from academia due to their busy schedules. Also, it would be interesting to test if establishing a date for returning the diaries would increase their return rate.

Having detailed the methodology I used for this study, the following three empirically-based chapters present the findings of the empirical study of Tm-N.
4 The Tm-N Spectrum

Different Forces Driving Tm-N

This is the first of the three analytical chapters of this thesis that provide empirical evidence in support for the new perspective on Tm-N introduced at the end of Chapter 2. As reported in that Chapter, once I engaged in investigating how doing Tm-N is an integral part of the work-life of academics, it became evident that Tm-N can be seen as a process that encompasses three different levels of abstraction. This Chapter is dedicated to what I identified as the core of this process: the spectrum of motivational forces that lead people to engage in work in a variety of locations, which is highlighted in Figure 6. Hence, this Chapter seeks to elaborate on the discussion initiated in Chapter 2 on how Tm-N unfolds through T-Nomads’ practices as a dynamic and emergent process driven by different forces that are part of a spectrum that encompasses elements ranging from choice and opportunity to obligation.
Research on *Tm-N* often focuses on the mobile aspect of it and on the issues stemming from this, thus neglecting the factors that give rise to it. Studies on the subject tend to be preoccupied, with understanding how nomadic interactions take place, how *T-Nomads* move about and how they make place out of generic spaces to work. Reasons given for people to engage in nomadic practices include: meeting customers or collaborators; using equipment available only at specific sites; and being close to human resources that may be important for the accomplishment of tasks.

![Figure 6. Level 1 of Tm-N: Spectrum of Motivational Forces](image)

Of course, there are situations where work becomes strongly bound to specific locations and people are obliged to move to these locations to carry out their activities, as observed in Chapter 1. Understanding those situations is surely important to advance the research on the topic: however, the findings stemming from this research suggest that focusing only on these addresses only one end of a spectrum. Therefore, this chapter sets out to present evidence on the existence of a spectrum, and to discuss its relevance for gaining a better understanding of *Tm-N*. Evidence of the spectrum is provided via several vignettes and excerpts taken from the body of data collected for this research.

This chapter is organised as follows: section 4.1 discusses the emergent aspect of *Tm-N*; section 4.2 introduces the different elements of the *Tm-N* spectrum observed in this research, with section 4.2.1 addressing *choice* as one of the ends of...
it, section 4.2.2 presenting opportunity as the middle point in it, and section 4.2.3 bringing data on obligation as the opposite end of the Tm-N spectrum. In addition to that, section 4.3 addresses how collaborative activities may impact upon Tm-N and it goes on to discuss driving forces behind opting for face-to-face or remote interactions with regard to accomplishing collaborative work; finally section 4.4 presents a summary of the chapter and some final remarks.

4.1 UNDERSTANDING THE EMERGENT ASPECT OF Tm-N

My study reveals that Tm-N emerges from people’s practices as they go on to deal with different aspects of their work-lives. The following vignette illustrates this emergent aspect of Tm-N as it depicts Shannon’s engagement in different work activities during a trip to her country of origin to take care of family business. In this vignette she recounts how she got some work done as she found herself at different locations for various reasons, and as necessary resources became available:

Between Monday, May 9 and Wednesday May 18, I was in [my home country], attending to family business. On Sunday, May 15, I had more time for catching up with work [...] I chose to do work on that day. [...] I sat down in front of my laptop [...] and went through my UL email. There were a few emails I had seen before, but didn’t have time to answer. One was from a secondary school student interested in our [undergraduate] programme. As I didn’t know the answer to the question he was asking, I searched the Handbook of Academic Regulations that I downloaded from the UL website for that purpose. The answer was still not obvious, so I checked if my colleague Lucy was online on Skype and dared to bother her on a Sunday morning with a work question. Fortunately, she had the answer, so I was able to write the reply and send it. [...] Then, I was contacted via Yahoo Messenger by Luna [...] about a paper we were working on for [an Irish] conference. She shared the draft paper with me via Google Docs and asked for my opinion on the introduction. I made a few comments, then we discussed my contribution and made a plan about future work. As the weather was lovely, I decided to copy the [master programme] reports that I had to read and mark to my Kindle device and go out to do this. I found a nice café by the canal that’s crossing [the city], sat at a table and ordered an ice coffee before starting to read. Initially I took out my paper notebook to make comments on the papers, but very soon I decided I’ll try out the commenting facility on the Kindle [...] at times I was distracted by conversations taking place around me. I overheard a discussion about Facebook and hoaxes that drew my attention and I tried to Google the issue on my Android phone, using my mobile Orange connection. I made a note on my notebook (I haven’t installed Delicious on the Android yet) to bookmark the issue and maybe use it in a lecture for [one of the modules I teach]...

Vignette 1. Working while taking care of family business (From Shannon’s Diary)

The vignette above describes several practices that are part of the ecology of practices encompassed in doing Tm-N (see Chapter 5). Particularly, it illustrates
that access to remote resources, integration with other people, the assemblage and
mobilisation of information and technological resources, physical movements to
assorted locations and the configuration of temporary workplaces. In addition, it
portrays the dynamic aspect of Tm-N, (see also Chapter 5), as shows some
reconfigurations taking place in the nomadic process as work was being carried out.

Furthermore, the above passage reveals some connectedness between the
dynamic and the emergent aspects of Tm-N. Indeed, throughout the fieldwork I
noticed that these two aspects are intrinsically associated with each other. As
discussed in Chapter 2, whilst Tm-N unfolds, other work activities can emerge thus
leading to reconfigurations in the course of the process. In turn, reconfigurations in
the process can lead to new work activities at different locations as well. For
instance, while Shannon was working in the café, she overheard a conversation
between some people that had to do with a topic she teaches. Once that happened,
she decided to search for more information on the subject so she could use it in
future and yet non-planned lectures. That event can be related to the notion of
opportunity as one of the factors driving Tm-N, and one that will be further
discussed in section 4.2.2.

Above all, the excerpt suggests that Tm-N is not a process just to do with
moving to a specific location because particular resources that are needed for
accomplishing a given task will only be available there. Rather, Tm-N seems to be a
process that emerges from the way people deal with issues of their work and non-
work lives: it sometimes happens to people as they are dealing with other aspects
of their lives and it unfolds as they try to achieve a particular goal, resulting in
gradual change of the context they are immersed into. In this study I observed that
Tm-N is not to do with a matter of moving to be a nomad, but instead it is a process
triggered by people’s needs and motivations or by the opportunities they are
presented with.

4.1.1 Flexibility and the emergent aspect of Tm-N

To better understand the emergent aspect of Tm-N, it is important to take into
account the flexible nature of the work activities to be developed. The discussion
presented so far might give a false impression that Tm-N per se is what enables
people to work at different locations and to deal with their work and life as they would like. However, this is not what I argue in this thesis: Tm-N is only the process through which work gets accomplished at and across several locations; this process is enabled by other factors such as the technological apparatuses that are available to T-Nomads, as will be discussed in section 4.2.2.1, and especially the flexibility of some jobs, as noted in this section and its sub-sections.

Moreover, I argue here that, in order to understand the flexible nature of some work, it is necessary to have a clear understanding about the notion of bound and flexible activities, and about the elements that would attribute one or another characteristic to an activity. In fact, understanding the meaning associated with bound and flexible activities is essential for understanding the interpretation given to Tm-N in this work. In so doing, this section elaborates on the notion of bound and flexible activities, presenting the participants’ views on what they think it would make an activity bound or not bound to a location and framing these views in the definition adopted in this research.

4.1.1.1 Not bound, thus flexible and potentially nomadic

Needless to say, doing Tm-N would not be possible if people’s work activities were bound to a single location such as to the assembly line (Makimoto and Manners 1997). Therefore, we can say that people who work on a production line do not engage in Tm-N because their productive activities will always be accomplished at the same location and by the use of a set of tools and materials that are to some extent fixed. On the other hand, the enabling character of flexible work is highlighted by Jenny as she talks about the reasons why she is more mobile nowadays.

*I think the reason I’m more mobile now is because the job I have allows me to do things in other places that jobs before just required of me to be present and, ahm (pause), I find that for different tasks I need a different environment to be able to concentrate and so, now that my job allows me to, say, work from home I’ll do that more often.* (Jenny, Follow-up interview)

Tom reinforces Jenny’s argument, suggesting that flexibility is innate to most of the activities conducted by academics:

*Being an academic, I’m not bound, really, to any one location, it offers a tremendous amount of flexibility and freedom to be able to sort of combine holiday activities and work*,
Thus, there is evidence that once the work to be performed is not bound to any specific location people may choose the location where they think it would be most suitable for them to perform it. Not only that, they can engage in activities that they have not planned to perform beforehand because, since those activities are flexible, they would arise when time, space and other necessary resources become available; as they emerge, people may decide to engage in them wherever they are and, in doing so, Tm-N unfolds as different resources are mobilised to the particular location and temporary workplaces are established. This can be seen in several moments depicted in Vignette 1 such as when Shannon engaged in a collaborative writing activity when her collaborator got online, at a time that was convenient, and when she decided to do some research in a topic of interest that she could use in a future lecture. At this point it could be said that there is a link between the flexibility of the work activities and the emergent aspect of Tm-N.

4.1.1.2 Elaborating on the notion of bound and flexible activities

In the case of the academics that I studied, most of their work activities are flexible, i.e. they are not bound to specific locations. Some of the participants even stated that they are no longer bound to any location, as far as the technologies they need for their work are available, as James suggests:

In my opinion we are not bound to any place at all as long as we have some kind of good band connectivity. (James, Interview)

This raises questions which are pertinent to the context of this thesis; for instance: what makes an activity bound or not bound to a location? Are academic activities truly exempt from location boundaries? I will elaborate on these questions in the following sections.

Notwithstanding the opinion of a few participants like James, the most common understanding among the participants was that there are still some activities that are strictly bound to locations. Participants usually mentioned that whilst a great deal of research activities (e.g. reading and writing articles) and administrative work (e.g. answering e-mails, preparing lectures, preparing funding applications, etc.) that they carry out on a daily basis are not bound to locations, activities
involving face-to-face interactions, such as lectures and meetings, are. This is observable in Claus' words below:

> Obviously meeting students is bound to being here in this building. It doesn’t have to be in my office. I can help in the lab or I can meet somebody downstairs in the café with their laptop to discuss problems. Obviously writing papers, reading dissertations, that’s not bound to place. I can do it everywhere as long as I have a computer with me. I haven’t got the iPad yet. So I’m not doing it from the bus, really, in the electronic form but sometimes I may have a printed dissertation so I can read that even when I travel as long as I’m not travelling by car. (laughs) [...] Ahm, teaching, well teaching now can happen, so far teaching I’m bound to place when it comes to teaching. Now I can also teach in this virtual world. [...] I can basically, I have a classroom here in one of the corners of the world [...] So I’m not bound to be physically in the namespace as long as I can long into this world, I can actually teach here at these sites... (Claus, Interview)

Claus' opinion is representative of the other participants' views. With the exception of Philip, for whom some work must take place in the laboratory because the equipment is only available there, all the other participants emphasised the boundless nature of research and administrative activities. We can see, therefore, that the two main reasons that an activity might be seen as place bound would be: (1) the availability of human resources and (2) access to specific work equipment that could not be easily moved to other locations or that could not be taken to other locations because it is shared with other people, as recursively noted in the literature (Bellotti and Bly 1996; Normark et al. 2005; Su and Mark 2008). Kate elaborates on the former in the following excerpt:

> Well I suppose obviously with teaching the students come to a particular location so I have to be there. Things like the events, [such as] Open Days I have to be there to disseminate information (Kate, Interview)

Philip describes a situation in which the latter causes the former and, consequently, turns activities bound to a specific location.

> The research work is bound by place to a certain extent. [...] most of my conversations in relation to research take place here on this floor because that’s where our lab is and that’s where the people are. [...] equipment present in that place [would make the activities bound to it], [e.g.] mobile robots available [...] We like to do as many of the experiments as we can in the one place because then they’re repeatable in some way, the background noise is common so you can think in terms of your signal to noise ratio calculations as being in some way repeatable. Particularly from a research perspective, the proximity of both myself and my students to the lab just outside definitely focuses us in terms of our efforts being here. Obviously I’m online in the evenings so I can answer questions and I can give comments to documents in the evenings and things like that. (Philip, Interview)
Because the equipment is in a specific location it can be easily found and used and because the running of experiments in the same environment is preferred, Philip and his students make an effort to be at that location and hence research activities become bound to it. However, towards the end of his comment he notes that he works during the evenings at home and can discuss with the students the experiments that were previously conducted in the laboratory throughout the day, exposing the flexible nature of some of his research activities.

With regard to teaching, participants acknowledged that they are becoming less and less bound to locations. This can be seen in one of the previous quotes when Claus mentions teaching in virtual environment, and is reinforced also by Philip in the following quote:

... but that [the bound nature of teaching activities] is less and less true now because of the fact that with the [specific] programme I’m responsible for delivering eight hours on four different slots in [a company], everything else is available on Moodle. So the point is people can learn at their own pace online. So less and less is bound by place. (Philip, Interview)

Predictably, the data suggest that e-learning environments and distance-learning practices are making teaching less bound to locations – in fact this was already observed during the Pilot Study, as reported on section 3.3 of Chapter 3. In actual fact, mainstream information and communication technologies (e.g. Skype) and some social media (e.g. Twitter, Facebook, etc.) are other elements contributing towards that (Goscinski and Silcock 2003).

The data presented so far sheds light on what truly makes activities bound to a specific location. Although, participants usually associate face-to-face interactions with bound activities, it is questionable whether this association is appropriate. For instance, we might ask if lectures and meetings are really bound to locations. The findings of this research suggest that it depends. Unless the location offers very specific resources that cannot be found at any other location and that are essential for the lecture, or the meeting, they would not be place bound. In truth, they are commonly not place bound: an example of this is when the same lecture, delivered by the same lecturer in different time slots, takes place in different lecture halls. Sometimes the lecturer can even decide to take the student to a different location, as Claus mentions when he is talking about the bound characteristic of lectures, reaching the conclusion that, in reality, he has a choice:
I remembered now, not with me, somebody was telling me a famous story about a famous Professor in Belfast [...] was bringing the students to the pub and giving the lecture in the pub [...] I think; yeah, I, probably I do have a choice, you know, to tell the students, OK, I will do that now, I will Skype you today, so everybody gets Skype and we’ll do a Skype class, for example. (Claus, Interview)

It is worth clarifying that I am not arguing that Tm-N is displaced and happens anytime/anywhere. In fact, an extensive body of research has already demonstrated the relevance and the implications of place to Tm-N (Perry et al. 2001; Brown and O’Hara 2003; Ciolfi et al. 2005; Bogdan et al. 2006; Rossitto 2009): this research acknowledges and accepts this point. The notion of bound and flexible activities discussed here relates rather to the dichotomy between single and multiple locations.

Therefore, in this research flexible activity is used to refer to those activities that could potentially be performed at different locations by easily mobilising the resources needed for their accomplishment. On the other hand, the term place bound activity is used to refer to activities that would have to be strictly developed at a single location either because the resources that are necessary to develop the activity are fixed in that location or because there are organisational constraints imposed on the worker. The latter consideration means that an activity that is naturally flexible can become bound depending on organisational constraints or policies. For instance, according to the interpretation used here, lectures are not really bound to locations, i.e. they could potentially be delivered in any lecture hall or in any location that the lecturer would like, however the timetable system in place in a university makes them bound activities. This is evidenced by Maeve’s comment below, which also reinforces how resources present in a specific location (e.g. her files) may turn a potentially flexible activity bound to a location:

*Only lectures, obviously, [are bound to location], but that is not even true. I suppose lecturing attached to my immediate job is about the only activity that I do that I would see as [place] bound only, purely, because the administration allocates me specific position in which to do it, [but] the rest of it, it doesn’t matter where I do it, and I do it in all sorts of places, you know. I actually do enough a lot of stuff at home in the evenings, when some of my gang are doing other things and I suppose I’ve become quite adept over time of working in all sort of mad places. So I am quite happy to go over to the canteen when it’s quite busy with my own laptop and just work away. So... yeah, that is about the only thing that I would consider or maybe, I suppose, there’re parts of the administrative stuff. I kind of feel that I might have to do it here [in the office] because I have my files here and, apart from that, I don’t think so.* (Maeve, Interview)
Having the notion of place bound and flexible activities clear in mind is important to understand the emergent aspect of Tm-N, which involves flexible activities and the ways in which they surface in the course of the nomadic process. Also, understanding the notion of place bound activities is valuable to capture how Tm-N is performed by people as they may be involved in different bound activities and, because of that, they would need to be moving back and forth between different locations where they will accomplish work. This will be further discussed in section 4.2.3.

### 4.1.2 Mood and the emergent aspect of Tm-N

Another element that highlights the emergent aspect of Tm-N among those who work with the production of new ideas or new knowledge has to do with their mood and disposition to work. In relation to the creative part of academic work, the data suggest that this is something that cannot be framed within specific hours and specific spaces. This becomes clear as Tom speaks about his motivations to engage with work at different locations:

> [...] in the context of work, I suppose because the nature of work, it’s always with me, so I don’t consider going to work so much because, you know, I’m always working, it only happens to be where it is, so it’s an unfortunate aspect of what we do here, but you can work, you could possibly work all your week hours, and, you know, inspiration comes when it comes, you can’t, I find it very difficult just to exclude certain parts of the day from work. 

*(Tom, Interview)*

This quote sheds some light on the emergent nature of Tm-N: it illustrates Tom’s way of doing Tm-N so that work gets accomplished wherever he is. In particular, Tom’s reference to inspiration and its unpredictability could be used to reinforce the idea that Tm-N is emergent. As he noted during the shadowing session in which he participated as he went on to engage in a writing activity, “inspiration comes where it comes” and, once it comes, workers should make good use of it. Jenny’s comment in the following strengthens this proposition:

> [...] what I do is I plan ahead because I never know when the mood to work will strike me, I mean, maybe I have to, I have to, maybe I know I have to work home, I have so much on my plate, so I know I’m taking it on in which case I take my work laptop home, but otherwise, I’ve got two cloud computing connections now. 

*(Jenny, Follow-up Interview)*
Jenny’s comment stemmed from a part of the follow-up interview where she explained how she ensures that she has the proper resources to engage in work when she is not in her office. Jenny has three laptops: a play laptop, which she keeps at home; an all-purpose personal laptop, also kept at home; and a work laptop, which usually stays in her office. Asked whether she would be able to access everything she needs from her home laptop in case she decided to do something regarding work at home, she explains that she plans ahead so that she can be prepared for when the ‘mood to work’ strikes her, as is expressed in the quote above.

Other participants often mentioned that they were constantly planning ahead so that when inspiration struck them they were able to set up their temporary workplaces and get the work done. In reality, planful opportunism (Perry et al. 2001) is one of the key factors associated with Tm-N, as observed in Chapter 2. Nonetheless, this finding about the unpredictability of T-Nomads’ mood adds to that of the unpredictability of the environment often addressed in research about Tm-N (Perry et al. 2001; Su and Mark 2008; Rossitto 2009). Research on Tm-N usually draws attention to the fact that workers are always planning ahead to make use of the dead time or to be productive in situations that things does not work as they expected, however there is no allusion to how planful opportunism is associated with the workers’ motivation towards engaging in work, e.g. when Jenny is planning ahead so she can perform some work when the mood to work appears. This research draws the attention to this fact and argues that it is an important element to take into consideration when trying to understand how doing Tm-N is part of T-Nomads’ work-life.

4.2 A Spectrum of Motivational Forces

This section advances the discussion of the spectrum of motivational forces leading to Tm-N by presenting empirical evidence that enlightens each of its elements.

The spectrum observed as the fieldwork progressed encompasses the elements of choice, opportunity and obligation. According to the data analysis performed, these elements can be organised either in a continuum according to the freedom of
choice involved in deciding to move to a location\(^{46}\), as illustrated by Figure 3 of Chapter 2, or in a spectrum, as portrayed by Figure 6, which is organised according to the possibility of a motivation factor to lead to another\(^{47}\).

The next sub-sections of this Chapter elaborate on each of these elements, and exemplify each of them with empirical data, which is intended to demonstrate the importance of taking account of this spectrum of motivational factor as attempting to understand \(Tm-N\) in people's work-life.

### 4.2.1 Choice as an Element for \(Tm-N\)

Further analysis of the data suggests that it is reasonable to think of choice as one end of the spectrum of motivational factors driving \(Tm-N\). Indeed, choice has emerged as a strong element in \(Tm-N\) with participants commonly associating their engagement in work at a range of sites with this element. In fact, this was the main difference that participants mentioned when comparing their approach to work-life to the approach used by members of nomadic tribes. Most of the participants mentioned that pastoral or traditional nomads move by necessity, for survival, while they may choose whether they want to move to a specific location to undertake work or stay settled in the location where they are, corroborating Makimoto and Manners' (1997) prediction that the years following the publication of their book would witness a movement towards people's being able to decide on whether they would move their workplace\(^{48}\) and engage in work in various locations or stay put. Nonetheless, the authors could not foresee whether people would take up this opportunity or not. The purpose of this section is to present findings that demonstrate that academics in reality frequently take up such opportunities.

\(^{46}\) _choice_ = total freedom to choose the location to where to move and engage in work; _opportunity_ = no decision involved, i.e. situations when people do not move to a location to engage in work but rather engage in work opportunistically in a location that they already are; _obligation_ = no freedom to choose, i.e. people must to move to a specific location to engage in the task at hand

\(^{47}\) For examples please refer to Section 2.4.1.

\(^{48}\) The idea of mobility of the workplace is grounded in the notion of the _fluidity of mobile interactions_ elaborated by (Kakihara et al. 2002) and discussed by (Rossitto 2009) as she talks about how computer technologies may reduce the discontinuities between places "enabling more fluid geographical movements" (p.36), thus facilitating \(Tm-N\). According to this notion, the workplace becomes a fluid notion that can be assembled and brought to different locations as needed and people may go "from a single workplace to a number of places for work" (ibid, p. 17).
However, before proceeding with the discussion, there is an important caveat to be made. Although the participants consistently shared the impression that most of the time they may choose whether they will move to a location to perform their work or stay settled at the location of their preference, the extent to which workers holding knowledge-based positions can do so is questionable. In reality, as can be observed throughout this chapter, this is not entirely true given both the dynamic and emergent aspect of Tm-N and the organisational constraints sometimes in place. The former suggests that sometimes workers do not choose to move to a location to perform work, sometimes they engage in work spontaneously as they find themselves in a given location and the resources that they need to accomplish some work tasks are conveniently made available – this will be illustrated in section 4.2.2 of this Chapter. As for the latter, sometimes workers have to engage in some bound activities, as was introduced in section 4.1.1.2 and will be further discussed in section 4.2.3.

In order to better understand the driving forces for moving to a specific location, participants were asked during the interviews about the reasons that would make them to move to or remain in a particular location. In addition, during the shadowing session I carefully observed how they would take opportunities to accomplish work at different locations and how Tm-N emerged as such. I have observed that, (1) once the workplace can be mobilised, i.e. the resources for accomplishing the work activities can be brought to the desired location and (2) there are no organisational constraints demanding that the worker must stay in a determined position, choice drives Tm-N. The following sub-section presents the findings associated with the most common reasons given by participants in regard to moving and engaging in work in a location of their preference.

4.2.1.1 Comfort as a choice criterion

During the interviews, the participants were asked what would be their reasons to move to a location rather than to another. Participants frequently referred to comfort as one of the main determinants of choosing a location over another, reinforcing findings from the literature that this thesis draws on (e.g. Churchill and Munro 2001; Salazar 2001; Towers et al. 2006; Meerwarth 2008). The following
quote illustrates this, starting with Tom explaining why he considers one of the cafés in the university campus to be a workplace for him:

*I don’t really like working in the office, it’s ok now, but especially in the summer we don’t get good ventilation in this office so it can become really stuffy in the afternoons so to be able to go to a place, you know, a café in work, is a nice change of pace and tends, well it can be more comfortable. There’s coffee there. (Tom, Interview)*

Because Tom’s office is not the most comfortable to work in during the Summer, he spends most of his work time at the Scholars Club at the university and that makes him feel that the club is his main workplace. Since his research has much to do with on-line resources, he just needs to bring his laptop with him and to get hold of an Internet connection: once he does that he can do his work properly49.

Still with regard to comfort, on the day that he was shadowed, Tom started his day of work at an Internet café near his house. As soon as he got there, he showed me the comfortable environment that the place offered to him, explaining that he consciously chooses that place over other similar places in town because they have the best latte in the city:

*I don’t know why, but it tastes different [...] despite how much I like Scholars Club, the coffee here is the best in Limerick. (Tom, Shadowing Transcript)*

Interestingly enough, the motivations to go to those locations were not directly associated with the availability of resources for accomplishing work, e.g. access to the Internet. Instead, the motivation was associated with another resource that can make a work session enjoyable, e.g. food. Access to the Internet, something that participants also considered a determinant in the choice of a location and that would sometimes be essential for them to accomplish their tasks, was usually in the background of their discourse; they often justified this by noting that nowadays Internet connectivity has become so ubiquitous that it would be difficult to be in a place that does not offer that resource, so they would not need to worry

49 Here we can observe a reference to the three fundamentals for Tm-N observed during this research and to some extent discussed in the literature, i.e. the mobilisation of the workplace (e.g. he can easily bring the tools of his work to the location of choice), the access to resources (e.g. he can easily access remote resources via an Internet connection) and the absence of organisational constraints concerning work out of the office (e.g. there is no regulation establishing that he has to stay and in the office when he is not teaching).
about it. However, as will be discussed in section 5.3 of Chapter 5, this is not exactly true in reality.

The relevance of resources other than those strictly necessary to accomplish work is reinforced by Claus when he talks about the reasons that would lead him and his colleagues to choose a place over another when they have to meet:

\[
\text{[... When] we have small groups, like we want to meet 3 or 4 people, we meet in the café, actually. So the fact that we can get coffee and a scone, here you go, yeah, this is the motivation... You can make it nicer, more comfortable for people. (Claus, Interview)}
\]

Once again, direct reference is made to comfort, and it seems that comfort acts as a choice criterion when it comes to the development of work activities at different locations. This can lead to other questions such as to what extent the search for comfort can be a part of $Tm-N$ or, in another sphere, what role comfort would play in career planning. However these issues are beyond the scope of the research questions of this thesis.

### 4.2.1.2 Prospect of enhanced productivity as a choice criterion

Choice of a work location also arose as an issue intrinsically related to attempts to enhance personal productivity. Participants often mentioned that the choices they make about where to work, when to engage in work and what tools to take with them are made in terms of when they can be most productive, so that they can do whatever they have to do in the best way they can. This is evident in Lucy's comment below:

\[
\text{Sometimes you do need to be in a different space to be productive. So as to say like, you go to a proposal writing meeting, and just not being in the office, being somewhere else, like a hotel, and that's what you are there for, concentrates you very well. (Lucy, Interview)}
\]

Lucy goes on to recount a situation where all members from a collaborative project she was participating in decided to fly to London and congregate in a hotel near Heathrow Airport, as a strategy towards enhancing the productivity of the proposal writing activity:

\[
\text{I was at one [project writing meeting] only a few months ago in a hotel just outside Heathrow Airport. So, literally, I flew into Heathrow, took one of the Heathrow buses, spent 2 days in a hotel, [and] took the plane home. So it is not that I went to London and I had the experience of being there; it was just convenient because everybody could get there easily, but it was good to be somewhere else. So we had a room with white boards, you know, and}
\]
it was not the office; it was not here whilst I’m on Skype trying to do other things. So I think being somewhere else can be very productive for certain jobs and I find that for writing this is very, very good: it just breaks the routine. So it’s about meeting people, but in a way it is the same motivation as for me to go to Starbucks instead of staying here, OK. It’s a bit further away, and maybe, you know, people who are coming for other countries can be there too [making reference to the hotel nearby Heathrow]. But it’s this idea of putting yourself physically in another space and, it’s amazing how different you feel about what you have to do... Because this place [the office] is so loaded, with all kinds of reminders and other things, you know, from timetables to the next bill I have to pay, or the review I have to do. So in a way it changes your attitude: where one is, new surroundings, you know. I think that is very important.

Vignette 2. Choosing to work in a Hotel to Enhance Productivity (From Lucy’s Interview)

The vignette above reflects the opinions of most of the participants. It depicts different elements that influence the choice for a location, such as availability of resources in the target location (e.g. the nice room, white boards, etc.), isolation from other resources (e.g. reminders, timetables, etc.) and, in the case of collaborative activity mentioned by Lucy, the feasibility for all collaborators to move to the specific site.

Kate adds the element of personal choice to Lucy’s argument on choosing a place due to the prospect of enhanced productivity by explaining why she prefers to work off campus:

I work off campus not because I have to but because it suits me better and I find I’m more efficient. So it’s not because the resources are at home and they’re not in my office, it’s because I’m more productive [...] in terms of the fact that I might work at home a good bit, is more a personal choice rather than the resources only being there. (Kate, Interview)

Kate’s choice to work at home has to do with the prospect for better productivity. In her case, the mobility of the workplace and the availability of the resources that would be necessary to carry out the work are kept in the background once again, which suggest that technologies are gradually escaping from the people’s attention as they become increasingly available and pervasive in their lives. However, we can see that they are far from escaping from people’s attention in situations when they become a hindrance. Taking into consideration that sometimes technologies may hinder the accomplishment of work and consequently decrease productivity (see Chapter 5), the data suggest that participants pay special attention to technologies and sometimes they choose to work in locations where they are not available, as Tom suggests:
[...] to do my research I only really need an Internet connection. And often that is actually a disadvantage, if I am deep unto writing I often like not to have an internet connection so I don’t have the possibility of wasting time, you know, browsing the web instead of working on writing, so certain times I’ll choose a café where there isn’t any wireless just for that purpose. (Tom, Interview)

According to Tom, having access to the Internet can become a displacement activity and, consequently, his productivity may slump. Therefore, in situations where he would need extra focus to increase his productivity, he goes to locations where he does not have access to that resource. The consequence of going to locations like that, according to him, is that the mobility of the workplace becomes more difficult and requires extra planning; since he would not have on-line access to his resources, he would have to plan very well beforehand what activities he would like to develop and to take with him everything he needs.

Besides choosing locations where a potentially disruptive technology is not present, choosing locations that allow for peace and quiet is another move that the participants take in order to enhance their productivity:

_My preferred working place is really at home. Definitely [...] There is more peace of mind there. People don’t knock on the door and walk in. It’s just a comfort thing really. It’s where you can really work. You can focus your mind in a different way in that situation rather than in an office or a cubicle. (James, Interview)_

The ‘knock-on-the-door-and-walk-in’ factor was mentioned by several participants as a reason for low productivity: they often said that staying in the office can be very disruptive and because of that they would frequently choose to work from home or from other locations, especially when they need to be more productive, as Maeve highlights:

_Well sometimes I think that [the reason for me to move to other locations] is to get out of here, because all my students know that I’ve got an open door policy, so even though we have very regularised office hours for our students to visit, they all know [that] if they knock on the door and I am here, you know... And also if I am here I am always tempted to check my e-mails and almost invariably there are somebody waiting for something that I haven’t done or... Sometimes I even go over to the library and I go up, near the journals area; I just find that I can be much more, sort of focused. It sounds kind of daft, but I find that sometimes in here I get distracted by all sort of things that I don’t really put a huge amount value on them, while if I go away from the space – and doesn’t matter if I am on the train, in [a Local restaurant], in the canteen, or in any of these spaces. I often do that: I go through all the various canteens, get a cup of coffee, have my thing and I say to myself, OK, I give myself 2 hours and see how much progress I can actually make in this piece of work; and nobody is calling me and I am not answering the phone – I usually leave my mobile phone behind – and I find that it can be far more creative way to work. (Maeve, Interview)_
Whilst the participants could effectively get isolated from resources that would distract them or avoid the 'knock-on-the-door-and-walk-in' factor, taking account of some of the locations they mention it is questionable whether they could really avoid disruptions at those locations, or that their productivity would not be hindered. For instance, participants constantly made reference to cafés and public locations as potential workplaces where better productivity is achieved. It is plausible to ask whether, in fact, those locations might not be a source of disruption as well or whether the background noise and the constant movement of people in the location would not hinder their productivity even further. Tom suggests that this does not happen:

[...] Curiously I think there are fewer distractions in a way [when I'm working at the Scholars Club], because I'm away from all my resources, you know, the desk is pretty clean right now, but there's often things pending sitting here and there is people coming in and out whom I work with and if I go up there the only thing that distracts me is what I take with me and what goes on around me but if you are in an environment like that where there is a lot of background activity it all turns to kind of merged together and form more of a backdrop than a distraction. (Tom, Interview)

Tom’s quote implies that as long as the disruptions caused by the movements happening in a public location are not directed towards him, i.e. as far as people are not going to talk to him or to get him to do something, those movements would merge in the background and it would not be distracting. That is an interesting finding for reasons explained further ahead, however, despite being a consistent finding across the participants, there is an important caveat to be made, as not everybody would experience those disruptions in the same way as Tom does, as is possible to observe, for example, in Aoife’s comment:

[...] I get very easily distracted by other people's conversations. I don't mind background noise like traffic or music or something like that, but I find coffee shops or cafeterias or canteens, places where lots of people are talking, I find I can't really work there so I don't usually work in those environments at all. (Aoife, Interview)

Aoife deliberately avoids working from public spaces because she gets easily distracted by other people’s conversations. This would truly prevent her to accomplish whatever she is trying to do. Contrasting both the views represented by Tom, who seems not to be disturbed at all by environmental disruptions, and by Aoife, who says she would really not be able to work at those locations, Jenny suggests that for some activities, she prefers to stay at home where she can have
peace and quiet and lack of interruptions, whilst when it comes to other types of activities, she prefers to work at public locations:

In certain kinds of work I find myself more productive with the opposite of peace and quiet. That’s another reason why I might go to a cafe with my laptop. Especially [...] certain kinds of [activities related to my field of research] and certain kinds of writing. In those cases going someplace noisy actually helps. It’s about not being interrupted but it’s also about a low level of distraction constantly. It helps me actually focus as opposed to banging my head against a wall in a quiet room trying to figure out where to move. [...] The reasons I pick are the level of noise or distraction, whether or not I want a beer or coffee or food, and whether I need peace and quiet. (Jenny, Interview)

Despite the different points of view presented by Tom, Aoife and Jenny, the fact that disruptions can actually work in favour of productivity is an intriguing finding, since productivity is commonly associated with peace and quiet and the absence of distractions (Haynes 2007). This suggests that the impact of such variables in productivity should be revised and that existing research on the matter may be missing something. Nevertheless, the most important thing to note in all the quotes presented throughout this sub-section is the focus on productivity and how T-Nomads carefully choose their location to work in an attempt to enhance it. This is a relevant finding that advances the understanding of the reasons why people would engage in work in assorted locations.

4.2.1.3 Better technological support as a choice criterion

A third criterion mentioned by the participants was access to better technological support, as Shannon discusses in the following quote:

So what makes me choose a place over another? Let’s think about the internet connection first of all. So if I prepare a lesson would I do it from home or would I come here [in the office]? The internet connection at home sucks. It’s very slow. If I need to look up any videos, as I had an assessment, which was a big part of this year’s work, because I tend to give students little assessments worth a few points here and a few points there, that I get to watch and read a lot. Probably I’m shooting myself in the foot but this is it. So I don’t have a proper internet connection to allow me to watch videos at home. So I would come here. Sometimes I cross the road from home to [a local hotel] because they have good Wi-Fi and if I need to do work and my internet connection is down, I go to the hotel, I have a coffee and I do my work from there. That happens pretty often. (Shannon, Interview)

Although this was not evoked as frequently as the two criteria previously discussed in this section, i.e. comfort and prospect for enhanced productivity, it shows some of the motivations behind the nomadic movements that people may make. As Shannon mentions, depending on the activity, she would need a very
good Internet connection, which she does not have at home. Although she could perform the activity at her place, the fact that her connection does not meet the quality criteria she would need to carry it out smoothly, she would go to the university or to any other location, like the hotel she mentions, where she can sit down and get hold of that resource. Philip addresses this issue when explaining how his mobility patterns have changed over the past few years:

> Now there was a stage, basically there was a blip at the point where the internet connection was so much better here than at home, you would, to put a time frame on that, I suppose up to about two years ago, and if you take three, four, five years before that. So there definitely were times when you’d come in here on an evening or Saturday in order to either download a document, send a document, do something, which I haven’t really done the last two years because my internet connection at home is good enough. (...) Now it would only be a really incredibly big document or incredibly big piece of video, or something like that which would force me to come in here, or you’d basically just wait for the morning. (Philip, Interview)

Therefore, the quality of the technological apparatus in place may influence the decision that people make towards choosing to work at a location or in another.

The data presented throughout this sub-section point towards diverse nuances associated with choosing a location for work. When it comes to comfort and prospect for enhanced productivity, the data suggest that the process becomes very personal and it cannot be taken for granted to go either way. It also brings to the fore the fact that when people choose one location over another, they do not only think of the resources necessary for the accomplishment of the work in question, but about those factors that will allow them to experience the location in such a way that it can become an actual workplace, suggesting a notion of place that goes beyond the simple idea of a physical space equipped with some sort of technologies and exposing the role of place in Tm-N, as extensively discussed in the literature (Brown and O’Hara 2003; Ciolfi et al. 2005; Normark et al. 2005; Murphy et al. 2006; Rossitto and Eklundh 2007).

### 4.2.2 Opportunity Driving Tm-N

Another Tm-N driving force portrayed in this thesis is opportunity, which emerged from the data as a factor of the Tm-N spectrum herein proposed that lies in between choice and obligation. It refers to situations in which people may choose or may be obligated to engage with work in a location where a specific resource
has been made available. It means that a need has appeared or a request has been made when they are in a given location; therefore, they have neither chosen to move to that location to carry out that specific activity, nor been forced to move to that location to perform that activity: they were already at the location and they went on to engage in and accomplish some work there because an opportunity for it has appeared.

Opportunity is directly related to the emergent aspect of $Tm-N$ discussed in section 4.1 when referring to the development of flexible activities, i.e. not bound to specific locations. Once people engage with work activities opportunistically at different locations, they put in practice some elements of the ecology of practices concerning $Tm-N$ and spontaneously create temporary workplaces in the locations where they are by using the resources they have with them and the ones of the infrastructure available in the environment to access the necessary resources for them to accomplish work.

This sub-section presents the sources of opportunities observed in the fieldwork data. In this manner, it is intended to further illustrate the $Tm-N$ spectrum, which is one of the key elements of the new perspective on the matter that I present as the main contribution of this thesis.

### 4.2.2.1 Opportunity stemming from the availability of resources

As previously illustrated in this Chapter (see Vignette 1 on page 91) people may engage in work activities when resources such as time, wireless connection or other people become conveniently available. In this sub-section, I will elaborate on how the availability of such resources creates opportunities for $T-Nomads$ to get work accomplished wherever they are (Su and Mark 2008). In the following sub-sections data will be presented regarding how these three resources arouse from the empirical data as sources of opportunity for $Tm-N$ with the aim of deepening the discussion about the $Tm-N$ spectrum observed in this research.

**Time availability**

Time is a scarce resource in the lives of the participants. The data collected suggest that the participants live extremely busy lives and try to be the most efficient as they can, thus leading to frenetic lifestyles as described by Elaine:
Frenetic is probably the right word. I am very busy, constantly on the go. I love the diversity which I suppose sometimes gives you a very challenging lifestyle because you're constantly thinking about very different things. Busy and high energy is required in terms of lifestyle. Work-life balance is a different story I think, that's really challenging. Yeah I suppose just very busy and challenging in terms of work. (Elaine, Interview)

In living their busy lives, the participants suggested that they take every opportunity allowed to stay on top of things. Kate illustrates how opportunity can drive her to engage with work activities in locations that she judges convenient, even when she is on the move:

So for instance, when I'm going from one meeting to another meeting I can check my email. So when I'm in the office I'm a bit more productive because I don't spend all day answering emails, I've those done by the time I get to the desk. [...] it just means that if you're sitting waiting for somebody at a meeting you can get some work done. I can fill in all the spaces in my day. (Kate, Follow-up Interview)

From Kate's quote one can infer that time is one of the resources that, once available, creates opportunities for Tm-N to emerge: Kate checks her e-mail in between locations as she has the time to do so; she gets some work done whilst she is sitting waiting for somebody at a meeting; she fills in the spaces of her day. This became even more evident as the data collected from her by means of the different data collection instruments employed for this research were triangulated. For instance, at the day she participated in the fieldwork shadowing session, she delivered a laboratory session where students were to work on their own in an assignment that she had previously detailed in a lab sheet that she made available through the university's learning management system. Her presence in the laboratory was required in case the students had any doubts or questions about the assignment or about the technologies they were using to implement the application they were supposed to develop – technologies that she had been teaching the students throughout the semester. As the students were working on their assignments, time became available for her to engage in other work activities. Hence she decided to edit a website she volunteered to be the webmaster for, as she reported on the follow-up interview when she was asked about the matter:

[...] I think I was editing our own technical communications website yes but I was actually using some of the material from the labs. I was actually teaching myself stuff I've taught myself before that I couldn't remember. I was updating my own knowledge using my own material to do so. (Kate, Follow-up Interview)
Situations like that were accounted for in the fieldwork interviews, observed among several other participants in the shadowing sessions and reported on the diaries that the participants completed as part of the data collection exercise. For example, in Vignette 1, taken from one of Shannon’s diaries, she clearly state that she engaged in work on the day she reported because she had the time to do so. During the follow-up interview, she emphasise several times how the availability of time may lead her to engage in a specific work task that she had not planned to accomplish in the location where she is (e.g. learning a piece of software that she uses for work purpose). For instance, in the above-mentioned Vignette, she mentioned that she was working in a nice café, marking students reports when she decided stop doing so and try to learn how to use the commenting facility of her Kindle, recently acquire. In the follow-up interview, when questioned why she decided to learn the functionality at that moment she went on to say:

*Because I had plenty of time [I decided to give it a go]. There was nobody rushing me and it was lovely and playful, I was sitting there and trying to see what it can do and because there was wireless I could also go on the Internet and search words and stuff, so I was exploring the functionalities. There was no pressure.* (Shannon, Follow-up Interview)

Also, during the shadowing session carried out with her, I noted that she engaged in several other activities in between work sessions as time became conveniently available to her, such as during the breaks in between teaching slots. In these breaks she took her Smartphone, checked her e-mail and tried to solve open issues depending on their viability. For instance, during one of the breaks she replied to a message from a student who was complaining about grades and checked a dissertation abstract she got from a student who was coming to visit her research group under her responsibility. She also tried to reschedule a meeting with an FYP (Final Year Project) student who had missed a previous appointment without giving her notice. For that she checked her digital calendar in an attempt to find a time slot available in that week to meet the student, which she could not find. These were only a few examples of how assorted work got accomplished in different locations as time became available to the observed *T-N Nomads*.

These kinds of activities are somehow related to a key factor of *Tm-N* that Perry et al. (2001) refer to as making effective use of dead time. However, the notion presented here differs slightly insofar as it is not restricted to planned activities
like those referred to by Perry et al. (ibid). This might be associated with the different work contexts investigated here, as will be elucidated below.

Perry et al. (2001) investigate Tm-N involving long trips and, in doing so, they focus on the development of work activities in the dead time occurring during the trip and the specific activities that led the person to travel in the first place. Thus, the authors suggest that in those situations, workers would possibly have a sense of the dead time they would have on their hands beforehand, i.e. they would know the time they would spend in transit or in between work sessions. Hence, they would prepare other activities to fill in the spaces and would engage in those activities wherever they are as those spaces appear, directly alluding to the notion of plans and situated actions (Suchman 2007).

The activities observed in this research were not specifically associated with long or short trips since Tm-N is interpreted here as a process which refers to the development of work activities at different locations independently of the distance between those locations. Thus, the activities developed from the opportunities available were much more organic in that they emerged as the opportunities appeared and they did not strictly require previous planning, although some sort of planning for effectively using dead time could be observed when participants mentioned longer-distance travelling.

The relationship between time availability and the opportunity to engage with work at various locations is reinforced by Philip as he talks about the reasons that lead him to engage with work somewhere in particular:

> *I won’t spend my whole time watching TV at home or I won’t spend my whole time reading a book at home, sometimes I’ll do work at home because I’m at home a long time. The reasons for the choice are the amount of time I spend in that particular location. If I spend a sufficient amount of time in a particular location then work will creep into that because I have the tools with which to do that.* (Philip, Interview)

The availability of time creates opportunities for Philip to work at a given location. Actually, it is acceptable to argue that he perceives the amount of time spent at a location as a determinant of his choice to engage in work there, once he has the tools to do whatever he decides to do. Technologies are among those tools and, in fact, the availability of technologies is another source of opportunities for T-Nomads, as discussed in the following.
Technology availability

In his comment above, Philip suggests that, when time becomes available, the tools should be also available in place so that work can be done. Technologies are among these tools, as is observable in Aoife's comment below:

*I have recently started to bring the laptop again, one reason is the wider availability of broadband on the train so I can get a lot of emailing done which tends to take up a lot of time in the office. Another reason is that I have less time now since having a baby and I feel I need to use all ‘dead time’ such as a train ride to get stuff done. I can also get reading done (of student work and other articles etc.) on the laptop without having to print out a lot of stuff.* (Aoife, Follow-up Interview)

Aoife lives in Dublin and comes to Limerick once a week. During her interview she mentioned that she would not bring her laptop to Limerick first of all because she had a desktop computer available in her office and second because she found her laptop too heavy to carry along. In addition to that, as noted somewhere in this Chapter, she stated that she would not work in public spaces because she cannot concentrate there. However, things changed since she gave birth to her child. As she reported in the previous quote, time was more pressured after the baby's arrival so she was forced to search for this resource in places that she would not have considered before, such as during her commute.

Nonetheless, time itself was not the only determinant for Aoife to start engaging in work on the train. Her statement suggests that broadband connectivity which is now widely available on Irish trains created the opportunity for her to become involved in work *more easily* during her commuting time, an opportunity that she would not miss given the other motivations previously exposed. It is worth highlighting that I am not arguing that technology itself created the opportunity for her to work on the train (as some *technology determinists* would do). Nevertheless, I acknowledge that technology created the opportunity for doing it *more easily*. Aoife already had the opportunity to work on trains before broadband connectivity became widely available, but, as she says, she would have had to print a ‘lot of stuff’ and that could make things slightly more difficult.

This account is interesting because it exemplifies how different opportunities work together to create the condition and underpin motivation to work at different locations. In Aoife's case, the opportunities generated by time and technological availability seem to have done the trick. Above all, the episode also depicts how a
need can lead to a motivation and an opportunity for Tm-N. Here Aoife’s need to make use of all the ‘dead time’ that was available to her so she would have more time for her new-born made her opportunistically starting engaging in work on trains as she was commuting. This will be further discussed in section 4.2.2.2.

To conclude, I argue that Aoife’s case can be associated with the opportunity reason of the Tm-N spectrum because she does not chose to move to the train to accomplish her work tasks. Neither does she have to move to the train to engage in work. Hence the movement to the train is not determined by a choice or an obligation to work in the train. Instead, she finds herself on the train because she needs to commute and once she finds time and technologies available she sets up a temporary workplace where she can achieve some work.

**Other people’s availability**

Another resource creating an opportunity for Tm-N was the presence of other people. This was particularly evident in the data collected during the shadowing sessions. For instance, on the day Jenny was being shadowed, she had to leave her office a couple of times to do some activities in other places within the department. As she was wandering through the department, she engaged in several activities at different locations. At a given moment, she decided to go downstairs to get some information about a piece of equipment located in one of the department studios and, before returning to her office, she decided to stop by the department canteen to grab a coffee. When she was heading back to her office, she met some of her students and went on to discuss issues on a project they were working on. In a few minutes they scheduled a meeting and decided what would be the next steps to be taken. This episode portrays Tm-N emerging from an opportunity generated by the availability of human resources: Jenny did not move to the canteen to meet with the students and to discuss project-related activities. She also could have chosen to let that opportunity to pass by. However, she decided to take it and do some articulation work that she would need to do from other place and at another moment if she decided to go straight back to her office.

A similar episode took place when Shannon was shadowed. She had to deliver a lab session in the morning; she arrived at the lab five minutes early, turned on the lecturer PC available there, loaded the websites she would use to start the
interaction with the students and sat down to wait for the time to start the session. As she was waiting for the lecture start, a few students who were missing arrived and among of them there was a student who was working with her on a research project. As soon as he entered the room, she called him to her desk and asked about the project. He updated her on the status of the project as she asked him to send her an e-mail with the details of the progress. They also discussed the need to meet and talk about the project and decided to arrange a time for that via e-mail. Although Shannon was in the laboratory to perform one of her work activities – i.e. lecturing – another one came forth as a human resource was made available – i.e. discussing a collaborative project with a collaborator. Thus, it can be said that the latter activity was triggered by an opportunity to get some quick work done at that location, before the “main” work activity started.

Although the examples given above might be considered mundane, as Tom would say, these types of things happen in their lives every day and compose the ecology of practices from which Tm-N emerges. Therefore, by paying attention to these elements we gain a better understanding of the dynamics of the Tm-N and the issues that may arise from becoming involved in it.

### 4.2.2.2 Opportunity as a result of emergent needs or requests

Opportunities for Tm-N can stem from emergent needs or requests as workers find themselves in places where they were not planning to engage with the activity in question. This means that workers can be in a given location having fun or involved in a social activity when they receive a work-related phone call asking whether they could sort out something from work. They may decide to do so, and, if they do, Tm-N starts unfolding once again. For instance, during the interview Jenny recounted about when she was in her home country visiting an uncle who was very ill and something related to work came up unexpectedly:

When I was travelling I went to see my uncle who is very ill and something work related did come up and I needed to get a file. He didn’t have wireless, he only had a modem [...]. My hotel had wireless but they had locked it up badly so I couldn’t send email because their firewall was poorly done. So I went to my uncle’s who I knew had [...] a modem, so what I ended up having to do was hack my way through, because I couldn’t get the modem to work on my computer, it was so old and it only ran with his old computer, so I kind of had to hack my way through to the UNIX level to be able to send an email through web technology.

Vignette 3. Working when visiting a sick relative (From Jenny’s Interview)
Jenny’s account depicts how a need can lead people to become involved in work at locations where they might not be expecting to. Furthermore, it illustrates all the work needed for the establishment of a temporary workplace in that location and to get access to the resources that were necessary for accomplishing the task. It also portrays a situation where technology might become a hindrance and complicate the performance of work in a location rather than facilitating it, an issue that will be further detailed in Chapter 5.

As for situations when a request can create opportunities for Tm-N, Shannon reports on how she was put in a panel unexpectedly when participating in a festival that she was attending to study in situ a phenomenon of her interest.

[After participating in a workshop] I was then dragged to sit on a [thematic] panel in another tent, on behalf of [my group in Limerick]. It was a bit embarrassing to be on stage and to be prevented from taking pictures, but I still managed to tweet and send messages to Facebook. (Shannon, Diary excerpt)

In that case, Shannon engaged in a work activity that was not on her ‘to-do list’, in a place where she was not expecting to engage with that kind of work at all. The reason for that was a request from the festival organising committee for her to join the panel. Another example of how a request can lead to work activities taking place in a particular location is evident in the observations of my shadowing session with Shannon. On that day, Shannon decided to leave the classroom for a few minutes to stretch her legs since it had been a long day at work and she needed some fresh air to recover. As she left the room, she automatically took her Smartphone and started reading some messages that had arrived since she left the office. Although this was one of the nomadic activities that she engaged in due to time availability, the activity of interest for this discussion followed it when a student came out the classroom and asked her whether she had a minute to talk about her research project. At that moment, an opportunity was created for her to take care of some administrative work that she was not expecting to conduct at that moment. Upon the student’s request, she went on to discuss the project at the particular location where she was and to take some decisions on it.

In summary, when a work-related need arises, or a work-related request is made in different locations, an opportunity to engage in work at these locations is created. As discussed earlier, that opportunity can be taken by the worker or not,
according to their availability or willingness. If they do so, Tm-N emerges as a temporary workplace is established and work gets accomplished.

4.2.3 Obligation as a Factor in Tm-N

The third and last driving force behind Tm-N identified in the data was obligation. The participants often referred to situations where they would have no choice but to go to a specific location and to work from there. Claus exemplifies it when explaining why he considers teaching a time and place bound activity:

> Well, with teaching I don't really have a choice, I'm scheduled, I have timetable. 9 o'clock I'm in this room, 10 o'clock I'm in this room. (Claus, Interview)

When it comes to the academic context explored in this research, delivering lectures was frequently associated with the notion of bound activity. Although it could be argued that lecturing is a potentially flexible activity, as was previously discussed in section 4.1.1.2 of this Chapter, within the university system, lectures of a specific module attended by a specific group of students usually become bound to a single location for the convenience of all parties involved in those activities. Making lectures bound to a time and location guarantees that some necessary resources for the activity (e.g. a lecture hall and its infrastructure) will be available and, in addition to that, it enables or facilitates coordination among the members of the group that will take part in the activity.

In fact, taking into account the data and the literature on Tm-N, it seems that face-to-face activities (e.g. attending conferences, meetings, collocated collaborative activities, etc.) are the main source of ‘forced’ Tm-N. These types of activities usually constrain the choice element commonly evoked by participants when talking about their lives, as Tom points out in the following quote:

> That said [that I am nomadic by choice] there is an exception, certainly travelling which is a necessity, to go to conferences and meetings and stuff. You can’t leave that other work at home, so it has to travel with you, and that is an example, I suppose, of where one is travelling to work, taking along one’s tools of the trade or whatever resources. (Tom, Interview)

This is understandable since these types of activities usually require that all people within the group agree on a location that would be suitable for a meeting, in the case of larger groups or communities, that an organising committee makes a
decision about locations and dates to which the other members would have to 

adhere. Once this decision is made, people have to move and meet at that location 
to take part in the activity, notwithstanding their preferences. This finding 
resonates with the literature: for instance, when Perry et al. (2001) and Su and 
Mark (2008) present meeting people as the main reason for Tm-N or when 
Rossitto (2009) addresses Tm-N as done by a student group work, they are 
reporting on situations in which people have to move to specific locations to 
engage in face-to-face activities.

However, although a constraint is imposed after the decision about the location 
is made, those face-to-face activities can often be performed from several locations 
and, because of that, the constraint imposed may be removed at any time when the 
involved parts judge it feasible. For example, people can potentially decide to 
develop one of these activities at a specific location and, once they are there, they 
may decide to move to another location, as Tom points out when he elaborates on 
the role of mobility for collaborative activities:

...let us take mobility in it broadest sense, so that is me personally being able to go to 
wherever I need or want to. It means that I can go quite easily to my colleagues’ offices and 
things follow me there, right? I don’t need even to take my laptop along, because a lot of 
stuff is on servers. But if we are having a really intense collaboration and we need to be 
insulated from the rest of distractions, we can go together to a café say, or to just some 
[other place], [as for example] to my house or to their house. I frequently, you know, the 
[hotel near my apartment] has wireless access everywhere. I often have lunch there with 
colleagues if we are working on intense projects. Go upstairs and nobody can find you. It’s 
great. (Tom, Interview)

This finding indicates that, even when a restriction is made (e.g. when one of 
the collaborators say “let’s meet in my office”), activities continue being potentially 
nomadic and they may change according to the dynamics of the process (e.g. in the 
middle of the work section another collaborator may say “let’s go to a café and we 
can continue from there”). This was observed when James was taking part of a 
shadowing session. On that day, he had a meeting in a museum in the city centre, 
so he went there and met his partners to discuss a project. At the beginning they 
decided to carry out the discussion at the museum restaurant; however, at a given 
moment James mentioned that it would be easier for them to understand his 
proposal if they he explained it in a room where the idea would be actually 
implemented. Once he mentioned that, the two other collaborators decided to
move to one of those rooms, located on another floor of the museum, and the discussion continued from there.

Although they were still in the museum, i.e. the same location in the city, the location within the museum changed and a new temporary workplace was set up so they could continue with their work. This illustrates the different levels of movement encompassed by Tm-N (i.e. movement that could be made between locations geographically close, like in the same building or city, or distant, such as different cities or countries). In addition to that, it reinforces the idea that face-to-face meetings are not necessarily bound to locations. From the data, the only thing that seemed to bind activities to locations is the availability of some fixed resources that are essential for work to be accomplished and that cannot not be easily moved to other locations, for example some types of equipment such as that kept in the audio studios at the university.

To conclude, it is worth mentioning that, although some activities performed by academics may become bound to locations due to different reasons, the nomadic aspect of their lives is not reduced. For instance, if one considers lecturing, it is plausible to argue that, even though the lecturing activities related to a module are commonly developed from a single location during an academic term, academics are usually assigned to more than a module during a semester. This means that they have to lecture at different locations since it is common that each of their modules is assigned different rooms in the university campus. In doing so, in spite of the fact that lecturing becomes bound, it becomes bound to different locations. Therefore, academics have to move to diverse locations to engage in it and, consequently, the nomadic dimension of their work is increased. As for conferences, although academics are forced to move to a specific location when they are to attend conferences, it is common that each edition of a conference is performed at a different location. Hence every time they decide to attend that conference they will have to move to a different location to attend it, once again configuring a nomadic movement.

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50 As Kleinrock (1996) observes “a move from my desk to a conference table in my office constitutes a fundamentally nomadic move since the computing platforms and communications capability may be considerably different at the two locations (even though they are separated by no more than 5 feet)” (p.351)
4.3 COLLABORATIVE WORK AND ITS RELATIONSHIP WITH THE $Tm-N$ SPECTRUM

As highlighted throughout the previous sections, collaborative activities have an influential role for $T$-Nomads in that they may force them to move to different locations in order to meet collaborators and accomplish some work together or they may provide opportunities from which $Tm-N$ can be done (e.g. when one unexpectedly meets a collaborator in a restaurant and the two of them decide to engage in collaborative work at that time and location). So it can be argued that collaborative work is intrinsically related to the opportunity and obligation regions of the $Tm-N$ spectrum of motivational forces herein presented.

In terms of the relationship between collaborative work and the obligation region of the $Tm-N$ spectrum, paying attention to the need for face-to-face interactions for collaborative work is of essential relevance. Face-to-face interactions are, according to several authors, especially important for the success of some types of collaborative work (Olson and Olson 2000; Bradner and Mark 2002; King and Frost 2002; Nardi and Whittaker 2002; Olson et al. 2002). Renowned researchers such as Olson and Olson (2000) even present co-located interactions as something that will never be replaced or undermined, arguing that these types of interactions are very important for the establishment of the trust and common ground necessary for collaboration to succeed. Taking this into account, it is acceptable to think that collaborators would always have to move to a common place where they would engage in work and, therefore, $Tm-N$ would be even more noticeable.

However, there is a portion of researchers who argue for the importance of mediated remote interactions for some types of collaborative work (e.g. Hollan and Stornetta 1992; Nardi and Whittaker 2002). With regard to collaborative work performed by academics, the findings of this research point towards the direction of the argument defended by the latter group of researchers. Participants often associated co-located interactions with the social aspect of work and with the possibility of a more pleasant interaction, rather than a necessity for successfully accomplishing collaborative work, as emphasised by Tom:
[Face-to-face interactions] are not essential. It’s possible now with all the computer communication and, and, shared workspace facilities that we have to effectively work collaboratively without any face-to-face meetings. So, to me it’s important for the social aspect. It’s more fun or it can be. (Tom, Interview)

Furthermore, when it comes to productivity, participants frequently acknowledged that they can achieve very positive results when they work over remote interactions, as can be seen in Claus’ statement below:

*I think for research I have great results working on papers with people over the email only. When it’s research work you can do that [...] With my supervisor here we had one of the best papers that we published was done completely on the email because he was in Australia, I was here. So after that he was shocked, ‘we actually did this best paper when I wasn’t in Ireland!’* (laughs) (Claus, Interview)

It could be argued that the successful episode reported by Claus is associated with the fact that the activity in question is a loosely coupled activity developed by two people who had already a well-established trust relationship, shared a high common ground and were ready to collaborate and to use collaboration technologies; these are three aspects that Olson and Olson (2000) and Olson *et al.* (2002) claim as essential for remote collaborative work to have a chance to succeed.

Nonetheless, in contrast with the argument by Olson and Olson (2000), who say that co-located activities are the best way to achieve trust and common ground, the data analysed for this thesis suggest that remote interactions are being increasingly used to do so. This becomes particularly noticeable when Kate recounts how she started a collaborative project with people from a non-European country. She explains that the non-European group first contacted her research group by email and asked if they would be interested in collaborating. Later that year, after they had already agreed to collaborate, they met at a conference “just to confirm” their relationship. For her, the fact that they do not meet face-to-face regularly is irrelevant:

*It’s really irrelevant that we have only met maybe twice. We met in 2006 and we met again maybe in 2008 face-to-face, but it feels like we meet all the time because we have video conferences and things like that. It’s only when I say it now, it doesn’t feel like we’ve only met face-to-face twice because we’re regularly in contact by email, video conferences, chat on the forums and so on.* (Kate, Interview)
Aoife explains that the way the first contact is established does not matter for a successful collaborative experience. For her, building trust and common ground depends much more on the person who is making the contact and the past achievements of that person, which in the academic world can be easily verified on the Internet nowadays:

[...] it would depend on who the person was and what university they were coming from and what they were proposing. It would depend. The same criteria that if you met someone face-to-face I think would still apply, it doesn’t really matter how someone approaches you necessarily if the rest of them is bona fide. It doesn’t really matter if someone sends you an email or phones you, or if somebody approaches you at a conference or if somebody sends you a message. It depends really on what they’re offering and who they are. (Aoife, Interview)

In Kate’s experience, the constant contact via information and communication technologies even blurs the distinction between the physical and the remote. She mentions how they got so used to each other due to the constant contact via computer so that it seems that they have met personally more often that they have51. This blurring of the distinctions between in-person and remote communications was noted by several other participants of the fieldwork as well. This is an relevant finding in that it suggests that trust and common ground may be established over remote interaction, and show how collaboration may succeed even between people who have never met before, echoing findings by Nardi and Whittaker (2002), who discusses how a mix of face-to-face and remote interactions may be particularly relevant and sometimes even more suitable to collaborative work than the single use of face-to-face interactions, as some authors would argue.

This is a relevant finding because there are times when travelling to engage in face-to-face interactions is not feasible, as widely acknowledged in the literature (even in studies that cherish face-to-face interactions). The fieldwork informants indicated: high costs – both in terms of monetary and of time resources; increased facility for keeping track of discussions conducted via information and communication technologies52; the avoidance of unpleasant collaborators53; and

51 That sheds some light on Olson and Olson’s (2000) questioning whether trust can be built over remote mediated interactions.
52 Participants recursively acknowledged that when it comes to mediated interaction on-line material can be shared and discussions can be easily recorded to for future reference. These types of interaction, in the participants view, are most suitable in the case of formal meetings.
finally, preference as the main factors that would influence on their decision on remote over face-to-face interactions.

Reflecting on the possibilities for remote interactions and the motivations that would lead people to become involved in them is relevant in the context of this thesis because remote interactions can potentially lead to a more stationary work style, meaning that Tm-N would be less noticeable. As Makimoto and Manners (1997) emphatically put it, computer technologies can afford the creation of both the “ultimate nomad” (p.17), i.e. someone who is forever on the move, working in all different sorts of locations, and the “ultimate ‘couch potato’” (ibid), which refers to workers who would never leave the living-room sofa and, making use of assorted computer technologies, accomplish all their productive activities from there.

However, as discussed throughout this Chapter, the findings suggest that there are several other aspects driving Tm-N, which would lead people to keep engaging in it. Moreover, whilst remote interactions may limit Tm-N, they may favour it as well, as is explained by Philip:

In terms of the distance learning I engage more and more now for example. in the last year or two, with Moodle and so as a consequence that nomadic lifestyle or that nomad dimension to my work has been reduced because of the access to virtual learning tools, or virtual learning resources. Yes. By the same token I now can grade efforts from my [...] students in a café. (Philip, Interview)

Therefore, considering the improvements of computer technologies allowing people to engage in the most varied types of remote interactions in many different locations (in the past it would have been more difficult to engage in some types of remote interactions such as video conferences, which required expensive equipment available in specific rooms) and the different motivations people may have to move to different locations, there is actually a possibility that people will be increasingly nomadic.

53 Participants pointed out that, as a matter of fact, sometimes collaborators may not be the most sociable people that one has to deal with: they may be important collaborators, share the same ideas, add important expertise to the group, but they “might not be the most enjoyable people”, in Tom’s words.
Claus says that people like to have a rhythm in life and because of that they tend to engage in Tm-N. Staying in a single location may be very disruptive to life, according to him, so people will keep moving:

*You want to have some everyday routine. Work from home can be very, very, very boring life, can be very boring and lonely life. It sounds like an attractive idea: ‘oh I can stay at home and work from home’, but it actually disrupts the daily routine, the rhythm of life, some sort of rhythm that you wake up, you go to work.* (Claus, Interview)

In reality, the participants’ views resonate with the views of many authors (Makimoto and Manners 1997; Gluesing et al. 2008; Meerwarth et al. 2008a). However, notwithstanding the benefits of mediated interactions, it is worth pointing out that face-to-face interactions are undoubtedly relevant to certain types of collaborative work, as widely explored in the literature. This is not disputed here. In fact, the fieldwork participants constantly mentioned varied attributes of face-to-face interactions, which would motivate them to opt for them when they have the possibility. Among those attributes were: the immediate aspect of face-to-face interaction – which refers to accomplishing work tasks more quickly; the superior quality of the face-face-interactions – which according to participants are richer in terms of social and environmental clues that remote interactions lack, as observed by Olson and Olson (2000); and the possibility of assessing the authenticity of people's profiles.

### 4.4 Summary of the Chapter and Final Remarks

Throughout this chapter I have presented data that illustrate the existence of a spectrum of motivational forces that drive Tm-N. Drawing on the data collected during fieldwork, I could identify choice, opportunity and obligation as some of the...
forces leading people to engage in Tm-N. Moreover, I could observe that collaborative activities may also act as an important element of Tm-N.

To summarise the findings presented in this chapter, T-Nomads may move to different locations in search of comfort, conditions to enhance productivity or because of the better technological apparatuses available elsewhere. Additionally, the Tm-N process can be most noticeable when they are at a specific site and the opportunity to accomplish some work there arises because resources such as time, technology or other people become available. Furthermore, there are always situations whereby T-Nomads are forced to move to a location, due to specific resources that are only found there, or due to company regulations or orders from superiors.

I argue that the identification of this spectrum is an important advancement on the understanding of Tm-N for it allows a better comprehension of how the process is triggered and how it unfolds. From my point of view this may provide relevant information to those who intend to design solutions for T-Nomads.

Having explored the emergent nature of Tm-N, I now move on to discuss how Tm-N can be seen as a dynamic process that unfolds by means of T-Nomads’ engagement in an ecology of practices encompassing different strategies, routines and other nexuses of “doings”, which are related to the technologically-mediated mobility of the workplace to an assortment of locations. I will also discuss how technologies can impact Tm-N, with an especial focus on technological paradoxes that may arise as people use diverse types of technologies to support them to move the workplace to different locations and to accomplish work from these locations.
This chapter introduces the second element of my depiction of Tm-N, focusing specifically on the second level of the diagrammatic representation in Figure 7, emphasising the dynamic aspect of Tm-N and the ecology of practice for the mobility of the workplace to diverse locations and to the accomplishment of work from these locations.

As discussed in Chapter 2, several definitions of Tm-N can be found in the literature each of them focusing on a particular aspect of the phenomenon. For instance, whilst Kleinrock (1996), Lyytinen and Yoo (2002b) and Chen and Nath (2005) approach Tm-N from a technological point of view, Rossitto (Rossitto 2009) provides a place-centred account of the phenomenon. In turn, Su and Mark (2008) focus more on the practices that T-Nomads engage in, elaborating a practice-centred approach to the topic. Finally, Salazar (2001), Meerwarth (2008), among
others addresses Tm-N from a work-life boundary-centred perspective. Except for the last approach, i.e. the work-life boundary-centred perspective, Tm-N is recursively presented as a notion to do exclusively with a work condition or a strategy used by people to accomplish work in several locations. Although these frames to Tm-N are undoubtedly relevant, I argue that the literature lacks a more thorough perspective on the matter that sees Tm-N as a constituent element of T-Nomads’ work-life and includes the connectedness between the several different aspects of the Tm-N notion (i.e. the work and life aspects of it, the impacts that computer technologies have upon it, the motivations T-Nomads have to get involved in it and the issues that may arise in their lives due to engaging in it). Therefore, this thesis is devoted to presenting a more nuanced account of Tm-N, which elaborates a new hybrid perspective that combines characteristics of all the four views previously mentioned.

Figure 7. Level 2 of Tm-N: Ecology of Practices

Within this chapter, the ecology of practices involved in doing Tm-N is illustrated in relation to two main themes: first, the dynamic and mediated aspects of Tm-N and second, the technological paradoxes that refers to a conflicting dualism regarding the use of computer technologies to support work in and across various locations.

This chapter is organised as follows: section 5.1 and 5.2 discusses the dynamic aspect of Tm-N as an important element to be taken into account when trying to
understand how it unfolds in the everyday work-life of T-Nomads; section 5.3 examines how the mediational element of Tm-N encompasses a dialogue between human bodies and technologies that work together in the process of getting work done at different locations and addresses the pivotal role that computer technologies play in supporting Tm-N; section 5.4 questions the vision of technology as the great enabler of Tm-N, addressing situations when, in reality, it acts as a hindrance; finally, section 5.5 presents a summary of the chapter and reflections on the findings.

5.1 UNDERSTANDING THE DYNAMIC ASPECT OF Tm-N: ARTICULATIONS AND RECONFIGURATIONS

As mentioned before, whilst conducting the fieldwork it became evident that Tm-N is rather more elaborated than a work condition. The data collected suggest that Tm-N is a dynamic process that permeates both the work and life of those who engage in doing it, meaning that it constantly changes according to contexts and situations, and it is continuously reconfigured according to the way people think of their work and non-work lives, strategise about them and react in situations where they cannot develop their tasks as they have planned.

In fact, the dynamic aspect of Tm-N has already been exposed in past research on the topic. For instance, two of the four key factors listed by Perry et al. (2001), planful opportunism and the use of mobile phone as a “device proxy”, are directly related to it. The former refers to all the planning that workers do before a trip so that they can be prepared for unexpected situations; the latter makes reference to situations when people need an unanticipated resource (e.g. a document, etc.) and use the mobile phone as a proxy device to get access to it. Both factors expose the anticipated unpredictability of Tm-N that can lead to reconfigurations in the process as it unfolds.

Notwithstanding the mentions in the literature, the dynamic aspect of Tm-N is widely overlooked. Drawing on the current literature, it feels like such aspect is usually taken for granted and not given the proper attention. For example, Kleinrock (1996) and Lyytinen and Yoo (2002) focus solely on how technologies
can enable Tm-N, not discussing the other complexities of the process and the reconfigurations that are inherent to it. Other studies on the subject are more concerned with how work is accomplished across a landscape (Meerwarth 2008; Rossitto 2009) and, in the end, the dynamic aspect of Tm-N gets diluted in a discussion about other issues. A noticeable exception to this is the work by Su and Mark (2008), who explore nomadic strategies used by people who engage in work in a range of sites as rough plans on which they can draw. Nevertheless, the authors look at Tm-N from the perspective of a work condition and do not explore how this notion describes T-Nomads’ work-life.

Therefore, this section addresses this dynamic aspect in depth. From my point of view, this avoids false generalisations or misleading interpretations of the process. In fact, since the process is emergent, as discussed in Chapter 4, and dynamic, as explored in this Chapter, I am tempted to say that generalisations are not possible, although patterns of reconfigurations can be explored and some particularities of the process can be abstracted, as is done in this thesis.

The following vignette illustrates some of the articulations and reconfigurations that may be encompassed in Tm-N. Here Jenny reports on a day of work away from Limerick when she went to visit another Higher Education Institution as an External Examiner:

_A few days before the trip, I rented a car for transportation. I had two trips to make in one week, so it was more efficient to rent the car for the week. I reserved it online, then collected it in person. The day before my trip, I used Google maps to determine the best direction. I do not own a smart phone, and my iPad does not have 3G. This means I had to print out my map. I started driving at 7:30 to arrive at 9am. I had instructions to call the Project Co-ordinator’s mobile phone when I arrived. That had been in an email. Although I had my laptop, I didn’t know what the wireless connectivity would be, so I printed that out, as well. The entire day was spent looking at fourth year projects in Interactive Multimedia. I had originally planned to use my iPad and an App called Evernote for taking notes. However, the department had pre-printed paper forms, so I again used paper. While there, we needed to see one project off-site. We carpooled, so there was no need for more maps or directions. There was no wireless connectivity or internet for guests, so I could not check email or voicemail. This left me uneasy throughout the day, even though I wouldn’t have been able to actually respond to the emails or voicemails I received. I have my work phone voicemails sent to me in emails so I can check them through email. At 5pm, I drove back to Limerick, arriving for 6:30pm. I immediately checked my email and discovered I had missed two important contacts, an email and voicemail. But, it was too late to respond._

_Vignette 4. Working as an External Examiner (From Jenny’s Diary)_

The vignette depicts Jenny’s preparations for the trip. She rents the car, finds her way to the location, prints maps since the devices she has would not allow her
to check them on the go, prints the e-mail with the contact number of the person she should get in touch when she arrives, and so forth, all these nexuses of doings are elements of the ecology of practices underlying Tm-N. Here her preparation for the unpredictable becomes clear: she is not sure whether she will have Wi-Fi connectivity at her destination, so she prints a large amount of documents. The vignette also depicts the three foci of the nomadic strategy described by Su and Mark (2008). First, Jenny assembles the actants\textsuperscript{55} that will help her to get into the work location and to integrate with the locals, i.e. the maps and the e-mail with the Project Coordinator’s number. She also assembles the resources that she intends to use for her work, i.e. her iPad that in turn assembles other technological and informational resources (e.g. different applications and documents she could need). Then she integrates with others when she arrives on site and, finally, she looks for resources (e.g. Wi-Fi connection). Interestingly, when triangulating this data with the data collected during her follow-up interview, it is possible to observe that the resource for which she was looking and whose absence made her feel uneasy throughout the day, i.e. the Wi-Fi connection, was not strictly necessary for the work she had to perform on site.

...now that I think about it. The Internet wouldn't have been much helpful for that particular day. It would've been just, for the tasks that I was doing at that day it would've been helpful [...] but if, for example, I could have responded to e-mails throughout the day, then I wouldn't have felt so bad about being away... We had our research centre's launch on Thursday night, (...) and [name] was trying to get people to help, to volunteer, to do stuff, and it was just awkward for me to be gone the whole day before the launch without any communication, it was just awkward. (Jenny, Follow-up Interview)

This quote reveals some of the complexities surrounding Tm-N. Although Jenny was away from her official workplace there were other activities going on there that she wanted to keep track of. The resource she was looking for was one that would allow her to monitor and to be aware of things going on in Limerick, i.e. to keep remote awareness monitoring, another key factor in Tm-N that allows workers to stay in contact with activities going on at different sites so that they can

\textsuperscript{55} It is worth remembering that the word actant is used here to refer to all types of resources (human, technological and informational resources) that may be assembled or contacted in the course of Tm-N and supports the mobility of the workplace to different locations and the accomplishment of work from there, as used by (Su and Mark 2008). This use is far from the depth associated with the term in Actor-Network Theories (Latour 2007).
get involved in them when they are back or even exert some influence on how they unfold while they are out (Perry et al. 2001).

The different activities performed and all the articulations they encompass illustrate how dynamic Tm-N is. However, that is not all: this research draws attention also to the changes in the nomadic process triggered by disruptions in its course. For instance, Jenny had thought of using her iPad to take notes on the projects she was evaluating, however she was forced to use pre-printed forms since the institution would not accept anything else. The fact that she had to use pre-printed forms can be seen as a disruption in the course of what she had planned, which caused the nomadic process to get reconfigured (e.g. something that was previously planned to be mediated by high-tech artefacts turned out to be mediated by low-tech resources). This exemplifies some of the disruptions T-Nomads may have to deal with as they engage in work activities at different locations and what workarounds they would develop to cope with them.

In Jenny's case the disruption had to do with the fact that the institution was not prepared to allow her to work as she would have liked. Using Chen and Nath's (2005) words, there was no nomadic culture in place to support Jenny to make the most of her nomadic experience. In reality, this is something that T-Nomads have to deal with frequently and has direct impact on Tm-N as a process. However, this is not the only thing that would create disruptions that may lead to reconfigurations in Tm-N. Another potential source of unexpected disruptions observed during the fieldwork was technologies: technological failures are a common type of disruption that impacts upon Tm-N and they demands further preparation by the workers so that they can accomplish their tasks even without the technologies they were expecting to use, as is portrayed in the following quote.

"... when I go to make a presentation somewhere, I always have in the back of my mind, 'could I make this talk, could I do this talk without anything, just me?' and if I can't then I haven't prepared properly. So if technology isn't there I'm quite adaptable and creative. I'd come up with another means for doing what I have to do. It probably would throw me but it wouldn't throw me that I wouldn't do it, I would do it. I often go along to give sessions with students and find I can't show a video, and I've often found it's even more of an impact (Elaine, Interview)"

Once again, the excerpt above shows the preparation that T-Nomads engage in for a work session in different locations, with Elaine making direct reference to the importance of not relying totally on technologies. Interestingly enough, the data
collected in the fieldwork suggest that T-Nomads are relying more and more on technologies, buying into marketing strategies of technology companies that try to sell technologies as the great enabler of efficacy, enhanced productivity and facilitated management of work and non-work lives (Meerwarth 2008). This is discussed in more detail in section 5.4. For now, attention is focused on the dynamic aspect of the process of accomplishing work at several locations.

As extensively acknowledged in the literature, when it comes to Tm-N, improvisation is something that workers should be prepared for – notice Elaine’s use of the words adaptable and creative as she refers to her work. Creativeness and adaptability were two elements often recalled by other participants when reporting on their experiences doing Tm-N, again showing direct link between Tm-N and the notions of improvisation (Weick 1998; Ciborra 1999) and situated action (Suchman 2007), as discussed in Chapter 2. People are aware of the fact that, since they may find themselves in unfamiliar environments where they will need to use devices that were configured by somebody else, it may be required of them the ability to improvise. In the following vignette, Elaine recounts a situation where technology failed her and how she dealt with it:

Interestingly I had a little video of a child in Japan, it’s a beautiful story, and I had showed it on YouTube a few times at conferences and when I speak in public, and the third conference I went to and I was using ii, it wouldn’t work and for a split second I thought, ‘oh god, the end of my presentation!’ Then I thought, ‘no hang on I can tell the story’ and I stood in the middle of the audience and you could have heard a pin drop, and I actually recounted the story myself and it worked a million times better than the one online. So now I tell it rather than showing it. So I think there’s always another... Technology shouldn’t be an impediment. We should be able to do it without it as well and if we can’t then maybe we’re not really doing it, or something, I don’t know.

Vignette 5. Reconfigurations after trouble to play video during a presentation
(From Elaine’s Interview)

It is worth mentioning that improvisation and creativeness are attributes of many types of work, i.e. they are not unique attributes of work that is accomplished through Tm-N (see, for instance, Kirton 1990; Weick 1998; Ciborra 1999). In terms of Tm-N, creativeness can be associated with two different things: (1) the motivation that leads people to engage in work in a particular location (e.g. T-Nomads may decide to take care of some work in the location where they currently are due to a creative spark they have at the moment, as discussed in section 4.1.2 of Chapter 4); and (2) unexpected situations that T-Nomads may find themselves when trying to accomplish work in a particular location (e.g. when a piece of technology does not work, as reported by Jenny and Elaine in the quotes above). Hence, it can be said that the latter circumstance is directly associated with the notions of improvisation and situated action, as workers may have to draw on their skills and the context in order to be able to achieve the task they would like.
In the end, for Elaine the result turned out to be a better approach than what she used to do and she decided to stick with the new approach from that moment on.

As mentioned before, those situations where improvisation and creativity are required are common in the daily lives of T-Nomads. This finding was reinforced as the data collected by means of the different data collection instruments used for this research was triangulated, as can be noticed in the quote below collected from Jenny during her interview, even before her report on the reconfigurations of Tm-N accounted in her diary from which Vignette 3 was taken. In talking about the disruptions that technology could cause her, she notes:

*In [my field of research] you have so many devices, so many pieces of hardware in the chain that the possibility of failure is exponentially high. (...) You add a device and it’s exponential(...) on an almost weekly, day to day basis we go into a room and we don’t know how the speakers have been set up, we don’t know how the projectors have been set up, we don’t know if our old DVD-R is going to be able to be read by the new computer and basically, while I’m at work I have more resources, I can go and ask someone for an older computer, I can get an adaptor, I can re-wire because I know the system. In the worst case scenario I’ve had to say to the students, ‘look this is going to be another 10 to 20 minutes because of technical problems’ and I usually turn it into a teaching thing because they’re learning my field and they should learn (...) this stuff happens and you should know the steps to finding out where it’s going wrong and how to replace it, or how to fix it, or how to work around it. (Jenny, Interview)*

Accounts like these were repeatedly provided by the participants of the fieldwork and illustrate how T-Nomads have to reconfigure their Tm-N strategies as unexpected events occur whilst it is unfolding. The following section addresses the dynamic nature of the work-life of academics, which amplifies the dynamic aspect of Tm-N.

### 5.2 On the Dynamic Aspect of Tm-N and the Dynamic Nature of the Work-Life of Academics

As portrayed in the previous section, unexpected situations and changes of plan were often observed during the shadowing sessions performed with the fieldwork participants. Whilst the previous section focused on the dynamic aspect of Tm-N, this section focuses on the dynamic property of the work-life of academics.
Not only $Tm-N$ is changed and adapted according to opportunities and the constraints of the context (see Vignette 3), the work activities that academics get involved in their everyday life also change continuously\textsuperscript{57}. Based on the empirical data I collected, it became noticeable that the lack of daily routines is characteristic of the work-life of academics. For instance, Marc says that “the days of my life varies quite a lot, so each day is typical”. Elaine further elaborates on Marc’s comment by explaining that the typicality of her workday should be thought of in fact in terms of typical work practices:

*There’s no typical day. I suppose I have typical work practices that I tend to carry out on most days and they would be trying not to let email distract me, so having times in the day where I actually monitor my emails. So that would generally be in the morning, and then when I come back after lunch, which probably should be before I go to lunch and in the evening before I leave, because otherwise it can take you off in different directions. I’m quite structured and planned and I tend to plan the day in terms of pieces of work that I have so that I get them done before I finish. The week on week off also has an interesting impact on my work practices. The first day back which can be a Wednesday, which was today, there’s always a lot of, even though I tend to respond to my emails even when I’m off, there is still an amount of getting back the reins on a Wednesday and then the following Tuesday I’m trying to close everything off before I’m not here for the following week. So that does define a lot. Wednesdays and Tuesdays are usually pretty hectic, and then the days in the middle is when I get a little bit more space to actually plan what other pieces of work I want to do. (Elaine, Interview)*

Bridget confirms Marc’s and Elaine’s perspective on what would configure a typical day of work in the work-life of academics:

*There really, really isn’t [a typical day]. But I think, if I am working at home, largely, I will stay a] couple of hours, maybe 2 or 3 hours on the computer in the morning, 2 hours in the café, [then I’ll have] lunch, short enough, back to the computer and I’m often sitting at the computer from 2 until 6, maybe with a coffee break in the afternoon. Variously the afternoon shifts more from a focused task to a bit of lecture, a bit of maybe continuing writing from morning, answering e-mails, varying between the three of them. And then, if I am in here [at the university], God, it can be anything, you know: I can be teaching, running between teaching and printing up stuff, maybe going to a café here on campus to read students work and comment on it and come back in here, and respond to e-mails, going to meetings, so it’s very, very varied when I’m here. (Bridget, Interview)*

\textsuperscript{57}It is important to observe the difference between the dynamic aspect of $Tm-N$ and that of the nature of the work-life of academics as they lead to analytical implications on the analysis of the findings herein presented. Whilst former refers to the situated actions regarding (1) the accomplishment of work in a assorted locations, as portrayed in Figure 2, and (2) changes of plan that may cause T-Nomads to move to other locations and engage in work from them, the latter is to do with the variability of activities that are performed on a daily basis by academics.
As can be seen in the examples above, although participants could not describe a single typical workday, they could identify typical work practices that would compose their daily work activities (e.g. working from home, working at cafés, checking e-mail in the morning, and so forth).

Given the dynamic characteristic of the work-life of academics, it is plausible to think that the ecology of practices that they engage with has its particularities. Nevertheless, from the analysis of the data, it could be verified that the ecology of practices they use for doing their Tm-N is to a large extent the same that would be used by any knowledge worker people whose work allows or demands them to engage in work at different locations (e.g. assemblage of actants, access to resources, duplication of resources, etc)\(^{58}\).

However, the data suggests that the dynamic aspect of the work-life of academics intensifies that of Tm-N. For example, Tom allegedly has a well defined pattern of movement – which can be interpreted as a Tm-N routine. During his interview, he said that he begins his day of work at home, moves to a café nearby where he stays until he feels he can no longer concentrate, then he goes to his office in the university and stays on campus until he is back home at night, and there he finishes his working day. Despite trying to adhere to a routine, Tom noted that his workdays would be slightly different when he has to deliver lectures in the university or when he has meetings scheduled, revealing that the process by which he gets work accomplished in different locations is not immutable. As the data collected from his interview was triangulated with the data collected from the shadowing session in which he participated, it turned out that the process in reality varies even on the days that he does not have to deliver lectures.

On the day he participated in the shadowing session – a day without teaching activities – his day started as he said it would usually do: I met him at his home when he was getting ready to go to the café where he usually works for a while. When I arrived at his place at around 9AM, he told me that he had just finished reading his e-mails and that he was getting ready to go. In the café, he got a phone

\(^{58}\) Remembering that the Tm-N ecology of practices refers to practices for the mobility of the workplace and accomplishment of work in different locations, not to work-specific practices. E.g. “downloading the slide presentations for a lecture in a specific lecture hall before it start” can be seen as a practice of the aforementioned ecology. On the other hand, general “teaching” cannot.
call from a collaborator asking whether they could meet to discuss a presentation they were planning to deliver together. As Tom was not expecting to meet her until the next day, he had to reorganise his plans. Tom went back to his place, took his coat and went to take a bus to the university. At the university, he made available some documents that his colleague would need in order to get prepared for the meeting by giving her access to his on-line repository. For that he needed to call the university’s information technology division and ask them to grant her permission to access and download documents from his private area. Then, another colleague arrived at his door inviting him for lunch with his research lab team. Tom had been thinking of having lunch with his collaborator, but now decided to check with her whether she would like to have lunch with the lab team before the meeting. In the end, they decided to have lunch with the team and when the other members headed back to their offices, they went to a cafeteria in the same building to discuss their presentation.

This short account of part of Tom’s working day reveals the very dynamic aspect of Tm-N and how it responds to the dynamic nature of the work-life of academics. This is a relevant observation in that it depicts how doing Tm-N is an integral part of T-Nomads’ work-life, as will be explored in Chapter 6.

5.3 SUPPORTING Tm-N: A DIALOGUE BETWEEN HUMAN BODIES AND TECHNOLOGIES

It is undeniable that Tm-N is a mediated process given its attributes and the practices it encompasses. The common understanding in the literature is that of Tm-N as a strategy by its very nature mediated by computer technologies that are commonly seen as the “great enablers”. Indeed, special attention has been devoted to the use of computer technologies in the process of accomplishing work at different locations as is visible in all the research studies cited along this thesis. This is particularly evident, for example, when Perry and Brodie (2006) approach the notion of mobilisation work, and when Rossitto (2009) draws attention to a similar concern as she discusses the discontinuities in time, space and other elements that characterise Tm-N and related technologies.
This research does not deny the important role of computer technologies in Tm-N: on the contrary, it acknowledges and considers these a relevant aspect to be taken into account when trying to understand the process and its implications precisely. However, accounting only for the technological devices used in the process and for the activities they support is not enough to fully comprehend how the nomadic process is mediated. Once Tm-N assumes the contours of a process that happens through an ecology of practices, it comes to the fore that the mediation encompassed in it involves a dialogue between human bodies and technologies in the process of getting work done at different locations. This section is dedicated to illustrate this dialogue and to explore how it contributes towards the understanding of Tm-N as a dynamic and emergent process.

5.3.1 Mobility of the Workplace

As discussed elsewhere (de Carvalho et al. 2011), Tm-N is primarily based on the practice of moving the workplace to the different locations where work will be accomplished. Like pastoral nomads move their households to locations where they can find green pasture for their herds or water for their crops, T-Nomads move their workplace to locations where they can find resources such as time, space, privacy, other people, to name but a few. Tom illustrates this matter when talking about mobile technologies:

Mobility in a technology would potentially allow us to go to a location for a different purpose, for instance a conference, and work there, right? Because neither of us, it's not like I have to go to his office or he has to go to mine we can go somewhere else and bring our tools with us. (Tom, Interview)

Tom’s words express the relevance of computer technologies in the mediation of T-Nomads’ movements. He makes reference to a collaborative experience where work would not be confined to either his or his colleague’s office: they could choose to go somewhere else and technologies would allow them to set up their workplace in the new location so that work could be carried out. Indeed, when commenting on their work practices, participants referred very often to the facilitation in the transitioning between locations that technologies afford; they frequently evoked the ease of bringing and accessing the informational and
technological resources that they would need to perform their work activities on site and underlined the relevance of doing so.

This became even clearer as the shadowing sessions took place. It was possible to observe participants engaging in practices encompassing the *assemblage of actants* and the *configurations of the temporary workplaces* as the participants moved across different locations. It was also possible to note that the assemblage of actants is a meticulous and continuous process that starts as soon as workers arrive in a stable workplace, and ends seconds before they move to a new location. For instance, when shadowing James, I observed which resources he brought with him to a specific location and the process behind the assemblage of those resources. The data suggest that workers constantly think of the things that they will need in the next temporary work location, and keep putting and taking away such things in the carriage container (e.g. a purse or a rucksack) that they will take to that location. The observations conducted for this thesis also allowed me to note that the set of actants frequently changes when workers go back to their stable workplace and the number of devices in it varies accordingly. In James’ case, his set of actants changed every time he went back to his office and it varied from a few devices as just his iPhone and iPad, to many – e.g. laptop, books, and connectors. Talking about the transitional set of actants, it is usually comprised of the ones used in a previous work session and the ones that get added as workers strategise about the activities that they will engage with in a near future or as they are reminded by the alerts they set for themselves about those activities. Again, in the case of James, while he was working in the office, he rose from his chair once in a while, took something and put it in his rucksack (e.g. books and materials he would like to show to the students). As was mentioned before, the assemblage process ends seconds before moving to a new location, with participants going through the resources they gathered during their stay in the last stable workplace: they check whether they will need all of them, taking out of the bag the ones they judge unnecessary for the forthcoming work session. Once in the desired location, the proper resources are picked up, connected and organised in the new environment in an act that refers to one of the most common practices *Tm-N* is comprised of: that of place-making (Brown and O’Hara 2003; Ciolfi *et al.* 2005; Rossitto 2009).
Figure 8 shows James’ customisation of the space available in the lecture hall where he was delivering one of his lectures before starting to present the content to the students.

Reporting on James’ movements from his office to the lecture hall exemplifies the dialogue between actants in that it reveals the interactivity of the process of assembling the actants and using them for accomplishing work in diverse locations. The data presented suggest that nomadic movements towards new locations and the accomplishment of work at these locations are not supported by the actants individually, but by the network that is formed by means of the dialogue between the technological devices available, the activity to be developed and the people who are performing the process. In this interplay it is possible to observe how personal resources (e.g. laptop and documents) interact with public resources (e.g. space, projector and network connectivity), and how they work together with the worker so that work is accomplished at different locations. Figure 8 depicts this dialogue between the actants James brought to the new location and the ones that were already available when he got there.

5.3.1.1 Weight load as a practical concern for T-Nomads

Throughout the fieldwork, participants cherished the easing of carrying their resources to different locations and accessing them, with such facilitation directly impacting their mobility patterns. Shannon comments on the topic as she talks about the meditational role of computer technologies in her work:

... as things become smaller and easier to access, I think we’re more inclined to work on the road. I remember before having it [the Kindle] I used to print out two or three papers to
Shannon’s remark shows the relevance of the size of the devices and their capability to get connected to the Internet in supporting her Tm-N. Both features are somehow related to the notion of weight reduction. First, the reduction in size accounts directly for a physically lighter device that is easier to carry. Another level in weight reduction is added with the digital representation of documents. Once documents are digitally encoded, they can be stored in or accessed from the device in question eliminating the need of unnecessary printing, something mentioned by Shannon and also by Kate in the following quote:

*I have a Kindle device which I use for reading my lecture notes. This semester I decided to stop printing out 40 pages of notes going to class. So I enlarge the Word documents, convert them to PDF and then open them on my Kindle.* (Kate, Interview)

As Vartiainen (2006) points out, developments in computer technologies make it possible for people to easily carry large amounts of informational and technological resources as they move about. In the past academics needed to carry heavy books, notepads, slides sets and so forth. Nowadays, they can assemble all of those resources in a single device, like Kate’s Kindle. Although some of them still complain about the weight of some of the devices they have to carry (e.g. their laptops), the amount of informational resources they can bring with them cannot be compared to that of the past. In the past it would be humanly impossible to carry the same amount of resources in printed form as is possible nowadays, especially if we take into account the resources that are not locally stored, i.e. those that are not really carried, and that can be accessed on demand. In this regard, connectivity, commonly highlighted as the greater enabler to Tm-N (Kleinrock 1996; Makimoto and Manners 1997; Lyytinen and Yoo 2002b), has truly been as a source of weight reduction, as is shown by Elaine’s comment below:

*Well you don’t need to bring documentation with you anymore because you have access to it wherever you go. [...] Even more than having to carry, I hate having to carry big heavy pieces of technology with me. I don’t like even travelling with a laptop. I like to travel very light. So knowing that I can, regardless of where I am, log on and find what I want, that is probably the biggest enabler.* (Elaine, Interview)
Elaine praises connectivity as the “biggest enabler” to Tm-N. However, if we look at her statement closely, it is possible to perceive that access anytime/anywhere is not the main focus of her attention, despite the constant reference she makes to it. Her focus is on the weight she has to carry: it suggests that connectivity is very relevant because it frees her from the need of bringing documentation to the site where work will be conducted. Whilst people need to bring with them resources that allow them to make a real place for work out of a generic space (Rossitto 2009), the data indicate that T-Nomads are critical of heavy devices because they would hinder their Tm-N. That is usually taken for granted in the literature. Studies such the ones cited in this thesis usually acknowledge that devices should be light, but they do not explore to what extent the size and weight of those devices impacts on Tm-N. The discussion on this section raises this concern and aims at drawing the attention of researchers to its relevance so it can be further explored in future research.

Elaine’s attitude towards heavy pieces of technology was shared by all the other participants of the study. They often mentioned the heaviness of laptops. The need to carry chargers, adaptors and peripherals was also a source of complaint. Participants would force themselves to bring a relatively heavy device to a site only if this were to be the main tool to accomplish the work at the location they are travelling to as Kate explains in the quote below:

I don’t bring my laptop away with me or anything like that for staying on top of work from a distance like that. Once I can log in and check email and stay on top of that, that would be the main thing I would do from another location. It’s heavy, might lose it and there’s a lot of valuable stuff on it. It’s more just kind of practical things that it would just be an extra thing to carry around as you know between the voice recorder and the mobile phone and everything else it’s enough things to carry around. (Kate, Interview)

This finding sheds light on the criteria T-Nomads use when assembling the actants to bring to a new location. Although the literature speaks about the assemblage of actants, sometimes it seems that T-Nomads bring with them all sort of resources that eventually might be necessary to deal with an unpredictable situation or to make use of dead-time. The data suggest that this is not the case: when it comes to support Tm-N, there is more of a dialogue between the workers’ needs and the devices’ features in the process of deciding which device should be taken to a given location.
5.3.1.2 **Easing the mobility of the workplace**

Designing for easing the assemblage of actants is identified as one of the design directions to follow when designing for *T-Nomads* (Su and Mark 2008, p. 313). It became clearer as the fieldwork progressed that, in order to improve the support to *Tm-N*, reducing the number of devices that workers would need to carry to different locations is an important goal. During the fieldwork, participants manifested that they would like to have as few devices to carry around as possible as Tom exemplifies in the following:

... I would like to have as few devices as possible. [...] So I do use two devices [the laptop and his mobile phone] in that case where one won’t suffice. Now, could you combine those to fashions into a single device and make it useful enough for all those that it would be sufficient for me? Maybe; if that’s the case, like I said I’d rather have one than two (Tom, Interview)

Tom’s comment represents other participants’ opinions. They stated that, with fewer devices to carry, they could travel lighter, which would augment their mobility, and it would be more difficult for them to forget an important resource behind, which is always a source of stress in their mind. Elaborating on the subject, the idea of a single device which could be used in all the different contexts of work was discussed. The idea was well received by the participants who agreed that having a single device to carry would be an advance in supporting their *Tm-N*. Some of them even draw the attention to the fact that a convergence towards a single device is already happening, as Philip points out:

*I mean more and more you have sufficient power on a quite reasonably sized laptop device in order to be able to do that. So yeah clearly we’re converging towards that, definitely. There are still some compromises. I mean my desktop PC definitely has better performance still. Definitely things work faster. (...) So they’re converging and definitely I see a day when they’ll be exactly the same [the PC and the laptop] but not just quite there yet. (Philip, Interview)*

However, as Tom explicitly states in his comment about having a single device: that one device should be useful. Tom says that the device should have a clever design so that it could incorporate portability and ergonomics at the same time. He is concerned with the input of long portions of text and with the visualisation of the data. For him, those capabilities would be decisive for the device to be useful as is exposed in the following quote:
I need a custom full size keyboard, I can't really work with a touch screen, everything I do involves a lot of text. So how would you get a decent size screen and a full size keyboard and be able to fit in the economy class. It would take a clever design, I'm not sure what that would be, but that's a limitation of what I have. (Tom, Interview)

Other participants expressed less concern with regards to input methods and data visualisation. Jenny, for instance, described this all-in-one device as something relatively small and light, with a fair screen size and long lasting battery, such as the iPad. For her, touch screen would be essential, contrasting with Tom’s views, and large storage capacity would also be required, since she works with heavyweight media. The input of long texts would be solved with an audio interface, which according to her is one of the main things holding up the development of such a device. Claus evoked even a more futuristic view, describing a wearable device, capable of capturing and translating users’ movements into input signals, and able to provide haptic feedback. Furthermore, that device would not need local storage and would be connected directly to the cloud, thus requiring good band connectivity so that the interaction can be natural without lags:

Yeah, you see, this kind of Robocop thing that you are like the Terminator, that you see the actual thing, you see the world but you also see another layer without things, so maybe I think for example you wear this device so it registers you on the cloud somewhere, that’s you, your name, your profile. So I also wear this device and this device is sensing that your device is there in proximity, so my device can download the data that you made public. So I not only see you but with my attachment I can read your profile next to you for example. This is achievable with the technology today. (Claus, Interview)

Despite the excitement of most of the participants towards the all-in-one device, James thinks that the idea is not feasible. According to him, a big mistake with current PCs is that the PC is one device with many things on it that sometimes clashes. Shannon raises other concerns to do with the processing capacity of such a device and also the forms of interaction with it. For James, the right direction is towards Weiser’s notion of ubiquitous computing (Weiser 1993):

As you know it is one device with many different things on it that sometimes clash. There’s actually a lot of interesting stuff coming out of the tangible, user interface style, what you could say even from the Ubicomp philosophy that having different devices for different things but they connect, is more important than having one device for all. That’s really what we’re seeing on the research side as well. You have the traditional old capitalist philosophies trying to tie down pieces of technology with proprietary communication protocols, but who’s losing out? Well, all humanity is losing out because you can’t get these things working together. (James, Interview)
James’ idea of the best support to Tm-N is to do with distributed and ubiquitous computing, meaning that there would exist different devices for different purposes and their functionality would not overlap. In addition to that, many of those devices would be available in the environment and that would reduce the need of bringing a large number of devices to new work locations, a strategy also suggested by Mark and Su (2010) in discussing easing the assemblage of actants. Moreover the devices available in the environment and the one brought by the workers would seamlessly integrate and the data would freely travel from one device to another.

Although feasible, this scenario raises some relevant questions, some of them extensively addressed in the field of ubiquitous computing and still unanswered: for instance, a relevant question is to do with how the devices should be connected (Makimoto and Manners 1997; Edwards et al. 2001; Kleinrock 2001; Sørensen et al. 2005). Exploring issues of connectivity between devices with the participants, problems with wireless connectivity were evoked frequently and unsurprisingly. Wiring and re-wiring devices can be really time consuming and troublesome when the right connectors are not available or when the devices would not speak to each other (York and Pendharkar 2003). Participants would like to see something along the lines of entering a meeting room and throwing their presentation to the wall by pointing their mobile device at it, without having to deal with all the cables. They would not to be concerned about copying their files from a device to another; the data would be accessed instantly. In fact, this is already possible with cloud computing systems (Armbrust et al. 2010) such as iCloud59. However, as James says, the integration between all computer devices available in an environment is easier said than done, especially because of the proprietary protocols in place that would prevent a device to communicate with another one and so forth – a discussion on the implications of this multiplicity of protocols will be conducted in section 5.4.4 of this chapter. For instance, iCloud works perfectly among devices and applications from the Apple family. However, it is not possible, for example, to integrate with it a point-and-shoot camera, a Blackberry, and so forth.

In addition to the difficulties of connecting devices to achieve the seamless travelling of information resources, another relevant concern has come to the fore: that of security and privacy (Harrison et al. 2004; Sørensen 2011), as is possible to observe in Shannon’s quote below:

... there’s a danger, everything you put out in the public area, you know, they hack private folders, the documents that are in Google docs or even in email, so having them in all platforms, I want to have files that reside on one hard drive, you know, keep them encrypted or take some measures of security. Nothing is safe (...) (Shannon, Follow-up Interview)

Although there is generalised agreement on the fact that no information is completely secure, especially when a device is networked, the participants noted that having different devices communicating wirelessly in a public environment would expose their informational resources even more. The connection between devices could be hacked, viruses could be spread, and so forth (Armbrust et al. 2010). Therefore, although the current technology would allow for advancements in the mediation encompassed in Tm-N, this will not be a trivial accomplishment. There are still many issues to be discussed and solved, many business barriers to be overcome and a culture to be developed so that the mobility of the workplace can be effectively further facilitated (Oppermann and Specht 2000; Edwards et al. 2001; Jessup and Robey 2002; Kristensen 2002; Lytinen and Yoo 2002b).

5.3.2 Access to Resources on Demand

Access anytime/anywhere is well acknowledged in the literature as one of the primary mediators involved in doing Tm-N. For instance, Perry et al. (2001) notably explore the different facets of this notion, identifying some of the key factors that surface from it when it comes to dealing with mobility. They carefully build an argument on to what extent access anytime/anywhere fulfils the promises made by the mobile technology industry, drawing attention to the fact that many of these promises are in reality rhetorical, and are based on a simplistic account of Tm-N and T-Nomads’ lives.

This section aims to contribute to advance the understanding of the particularities associated with this notion: it brings forth some insights about how access anytime/anywhere takes part of the dialogue between actants that happens
whilst *Tm-N* unfolds and in which situations it proves most useful for the participants.

My fieldwork reveals that this potential for omnipresent and constant access to resources is a very relevant mediator in *Tm-N*. When asked about the resources they would need to perform their work at other locations, most of the participants mentioned network connection. Some of them did not even mention the device that they would use to be connected to the network at first, which was somewhat intriguing. What would be the usefulness of network connection without a device that could make use of it? Would the relevance of computer devices be disappearing in the background once having network capabilities is becoming increasingly common in current devices? Would that have anything to do with the equipment available at the public work locations that provides the desired connection to the network (e.g. the PCs available in the lecture halls)? Some initial answers to the second question were found in the data, as is depicted in the following excerpt:

> For some things I just need my iPad, if I’m just trying to keep in touch with email and web stuff, most usually though I just bring my laptop. I need wireless, I need Internet connectivity basically and the iPad and the laptop both do that. (Jenny, Interview)

The emphasis that Jenny puts on network connectivity can be used to illustrate the relevance of access anytime/anywhere in *Tm-N* given that this ability can be obtained through network connectivity. As for the irrelevance of the device, the data unsurprisingly present evidences that it is actually a false impression since it was possible to observe participants choosing different devices for different situations, i.e. there is more in the use of a device than the simple fact that it connects to the network. As Sørensen (2011) argues, each device provides specific affordances that would have direct impact on the effectiveness of particular performances. For instance, some participants mentioned that while checking e-mails and sending quick replies can be done very effectively on a Smartphone, working on long texts may not be as such. Nonetheless access anytime/anywhere is the most apparent meditational resource in the participants’ view.

The reasons behind this increased attention become clearer little by little as such resource is related to the practices involved in doing *Tm-N*. As the fieldwork
progressed, it became noticeable how access anytime/anywhere articulates the
dialogue between the actants that are in use for Tm-N at a given moment. Such
ability allows different technological and informational resources to be reached
from different devices at the different locations where participants would find
themselves and at the time when those resources would be most needed. It
supports workers in bringing remote resources to new locations and allows those
resources to travel across different devices as the dialogue between actants
happen. In the participants’ views, it comes to their rescue when they most need it:

Sometimes when I’m giving a lecture or a lab session somebody might ask me a question, if
they can see sample assignments from a previous year or something like that, and it’s
always a great feeling when you actually open up your USB key and see that you do
actually have some samples there that you can show students, or if something comes up in
class, somebody says ‘I don’t know how to reference properly’, I can call up the UL library
website show them the link to the Cite it Right Guide (...). On a day to day basis in my office
when I’m doing administration in particular, every second email requires me to, apart from
the fact that email is via the Internet, every second email requires me to search something
before I answer it. So I either need to download a form to send to somebody, or somebody
sends me a link to some document that I need to complete so I have to go on the internet to
download the document and complete and send it back and so on. (Kate, Interview)

Kate’s account suggests that access anytime/anywhere is actually not the
ability that the T-Nomads value the most; the most valued feature for Tm-N is in
fact access of resources on demand, i.e. at the place and time that they are
necessary. Kate even makes reference to her USB key, i.e. a physical resource that
she carries with her, which is not in the cloud, nor is accessed via network
connectivity, but provides access on demand to the resource that she needs. This
assumption is reinforced by Jenny in the following:

[When] I feel that way [glad to have technologies] it’s because I need something I didn’t
expect to need and it’s something little like, ‘oh I have it on my iPad, oh I have it on this USB
key’, or, ‘hey I have my laptop with me’. You know if I have my laptop with me I’m never
surprised if I have something, but if I have my laptop with me it’s because I’m expecting to
need something but it’s always, I went to a grading meeting once and I had just gotten an
iPad and I didn’t expect to be needed for anything at this meeting so I just was to be a body
and next thing I know they’re asking me something and I’m like, ‘oh crap I don’t know’ and
then it dawned on me: wait I have this new iPad and files in my email and I can read it and
I brought it up and was able to say yes and no and I was like, ‘oh thank god I had the iPad!
because otherwise I’d have looked like an idiot without any preparation. (Jenny, Interview)

The association between access on demand and access anytime/anywhere is
significant and is not disputed here. After all, the latter supports the former.
However, I argue that it is key to differentiate between the two of them when it
comes to supporting Tm-N, once such a differentiation may have impacts on the
design of technologies and services to better support the accomplishment of work
in the assorted locations where T-Nomads may find themselves working on their
productive tasks.

5.3.3 It is not all about High-tech...But could it be?

Studies on Tm-N traditionally focus on the use of computer technologies neglecting
other types of resources that can be similarly important. It is argued here that
paying attention to those resources is important, firstly, to have a more accurate
understanding of the process and of what it encompasses and, secondly, to seek
insights on how to improve the technological support for T-Nomads. In so doing
this section presents some observations to do with the creation and use of paper
artefacts, a low-tech resource, during Tm-N and discusses their impact upon the
process.

5.3.3.1 The use of pen and paper

Participants relied widely in the use of pen and paper. There were frequent
allusions to these somehow “basic and primitive” technologies, as Claus put it in
the interview, when participants were asked about the resources they would need
to carry out their work at and across different locations. It is known from different
studies, such as the one presented by Luff and Heath (1998), that pen and paper
have different affordances and in so doing they allow people to do things in a way
that it is still not possible by using digital devices. That is clear in Jenny’s words
below:

... I need the physical paper. (...) You know, like, you take notes for yourself, and sometimes
those notes will be in words, sometimes those notes will be in photos, or pictures I made,
 sketches and sometimes there’ll actually be physical [...] on paper, so, ahh, I [long pause],
yeah, and then what I have, in the way I work I take these things and I spread them out so I
have this broad size view and, ok, if I need to work in a smaller place I have, I can put some
behind others, the ones that aren’t important, (...) even when I’m marking reports by
students I print them out because for some reason when I’m looking at the bigger picture
like that I can’t do it on a screen. (Jenny, Follow-up Interview)

Jenny mentions the different types of physical media that she may use during a
work session highlighting the ways she interacts with them. The affordances that
those resources offer, i.e. the reflexive actions that they allow for (Sørensen 2011),
are natural and intuitive: she can order them, stack them, and spread them on a table. All those concepts are indeed implemented in software interfaces (e.g. stacking windows, organising them in different virtual desktops and so forth), but the spatiality of the interaction is totally different. Not to mention the tangible aspect of the interaction that Jenny refers to. James adds some other elements to that:

> To me now, paper and pencil is still more immediate than any computer artefact that's there. With pencil and paper I can capture more of the moment of the flow, the thought or whatever it may be, than I can do with a computer. (James, Interview)

James mentions the immediacy pen and paper provide him, immediacy that makes them especially appropriate for brainstorming sessions, where catching the moment of flow is important and where scribbling is an important resource to develop ideas. Shannon for instance explicitly addresses the usefulness of paper artefacts for scribbling:

> [I would have printed artefacts when] I want to scribble, scribble and scribble. I read a lot in my Kindle or even on the phone, (...) I used to print a lot of papers (...) but with the Kindle it's not necessary anymore. What I would print is stuff that I want to write on... (Shannon, Follow-up Interview)

So, there are no doubts about the benefits of using pen and paper, and the usefulness of paper artefacts is not being contested here. However, I find it relevant to draw attention to the implications of using pen and paper for \( Tm-N \): the use of pen and paper generates physical artefacts that would possibly be needed in other parts of the work. In so doing, workers would have to assemble these artefacts and bring them to the different locations where they are conducting their work. Once these artefacts are physical, it would increase the weight load of the resources to be carried. So we get into a paradox where the mobility of the workplace would conflict with the demand of something capable of providing natural and intuitive interaction and allowing the workers to capture the flow of their ideas. Would there be a way to solve the conflict? Digitalising the notes afterwards is a solution that Kate she says she uses. She goes on to say that she types the paper notes that she creates during meetings of presentations that she attends in the computer as soon as she can so she can use it in other occasions. She mentions that if she didn’t do that, the notes would get lost. So would it be possible
to design and develop a device that would support T-Nomads with this? Taking account the current technological resources available it seems perfectly possible. Kate gives some hints of how it should be:

 Probably like your touch pad iPad type device. Ideally I’d like it to be something that’s lightweight that I can bring to lectures and carry under my arm, put down on the desk, maybe see my PowerPoint slides on one half of the screen, have some audio recording software (...) I’d like to be able to record a live lecture and ideally it be uploaded to the web at the same time so you don’t have to spend half the day in the office editing, manipulating things. I’d like it to be something that I can just write on. My dad has a nice one of these, it’s a Dell one, that I can just use my handwriting and it would recognise my handwriting and convert them into notes, rather than what usually happens is I write out paper notes and type them on the computer afterwards, and then you have to remember to copy them onto a USB key so you have them at home. There’s all this kind of, there’s a lot of equipment I have to actually update before I leave the office every evening. Then I make changes on that and I have to come in and update the version on my hard drive. I don’t have things maybe as well synchronised as I’d like. (Kate, Follow-up Interview)

Note the key features that Kate highlights: visualisation, handwriting input interface, audio input interface and network connectivity. With regards to the handwriting input interface, several participants indicated that handwriting recognition would be an important feature of such a device, i.e. converting the handwritten input in digital characters that could be formatted as the characters of a Word document can. They usually justified that saying that this way they could share their notes with other colleagues and be sure that they would be able to read them.

Developing a device along these lines would be an advance in supporting Tm-N. However the design, development, deployment and acceptance of it would need to be further studied. As Bartolucci (2007) demonstrated, the design of mobile technologies for Tm-N must be meticulous and should take into account several aspects regarding the conditions under which the device will be used. In agreement with these concerns, the data presented here only introduce the insights emerging from data analysis carried out on the fieldwork data with regards to the reasons behind using pen and paper in nomadic activities and raises some questions about its impacts on the process.

5.3.3.2 The role of printed artefacts

Printed artefacts were also frequently observed in use during fieldwork. For example, in Vignette 1 (section 5.1), Jenny describes her preparations for a trip as
External Examiner. In that Vignette, one of the roles that printed artefacts had in supporting Tm-N was to produce a persistent artefact that would be accessible in spite of network connectivity and power availability. Although Jenny had those resources on the cloud, she knew that some of them would not be accessible when she needed them (e.g. the maps) and she was not sure whether she would be able to access others as required either (e.g. the e-mail with the Project Coordinator's contact number).

Another role of printed documents that came out from the data was that of a reminder. Shannon, for example, explains how carrying along a printed artefact would help her not to forget about something she has to read or review, especially when there is no deadline defined:

This is a review for a paper and this is the review form - of course I have it on-line, but I’ve been moving this around with me for the last three weeks (...) This is a thing I don’t have time to do, so I have to have a reminder with me all the time, it didn’t have a strict deadline, so I tend postpone it forever, so if I carry it with me it’s kind of, listen, you have to do this at some point, you know, and sitting down, oh yeah, I’ll read this (Shannon, Follow-up Interview)

So there remains the question: could high-tech be used to address these situations? It obviously could. In regard to the first situation discussed, for example, Jenny would not need to print either the maps, if she had a GPS system embedded in her iPad, or the message, if she was guaranteed wireless connectivity at the location of work. However, when it comes to backup strategies against technological failures or unavailability, it becomes more difficult to replace the paper artefacts created. They are indeed safer in that they are accessible even if the device breaks down or if the local infrastructure does not provide a complimentary technology (e.g. Wi-Fi).

5.4 HELPER OR HINDRANCE? DISCUSSING TECHNOLOGICAL PARADOXES IN Tm-N

As seen in the previous sections of this chapter – and on previous chapters of this thesis – computer technologies play a very important role in terms of supporting Tm-N: they facilitate the mobility of workplace in that they offer people easy ways
to assemble and move extensive amounts of informational and technological resources to new locations where they work.

However, the extent to which technologies support people in exerting control over their work-life is questionable, especially if we take into consideration the situations when technologies do not work as they are supposed or expected to. This section is devoted to exploring this technological dualism and to portraying some of situations where the available technology becomes a hindrance.

5.4.1 The “great enabler” discourse

Throughout the fieldwork, participants often suggested that technologies have been empowering them, i.e. they are enabling them to do things in ways that make them feel they have more control over their work and life – a finding consistent with the literature on which this thesis draws (Towers et al. 2006; Lal and Dwivedi 2010; Sørensen 2011). Tom illustrates this as he talks about the freedom that technologies provide him in terms of working at different locations:

... [computer technology] really does offer you considerable freedom [...] I was in California last in June, I was over there because of types of family issues and I could take my work with me and continue, you know, keep up to date, well I was travelling on non, you know, work-related business. (Tom, Interview)

Jenny refers to a similar experience:

So the newer technologies have really made it possible for me to go back to the States for my sick family visit and come back while I still had to get marking done and still had to answer questions and everything else. (Jenny, Interview)

Josh corroborates Tom’s and Jenny’s perspective on how technology enables him to engage work from wherever he wants and, consequently, to live the life he dreamed about years ago when he was a teenager:

I am much more mobile, and I am living the type of life that I dreamed about the time when I was student myself, about 30 years ago. I remember seeing an advert in some computer magazine for advertising career in the particular computer company, I can’t remember the company name, and it showed a small cottage on an island, somewhere in Scotland, and there was one of this cartoon bubble coming out [with] the thinking of the person in the cottage, and he was saying: “I am on a Scottish island but I am actually working in the New York stock exchange”. And I thought: that is the type of life style I want. I want to be able to work from my home, but be connected to the place where the work is going on, and not have to be in the city, in the office, in the building, you know. And technology has enabled me to do that. (Josh, Interview)
The three previous accounts represent a common opinion among the participants. Recurrent references were made to the flexibility with which technologies provide them, with participants praising the easy access to resources and the fact that they could theoretically work from anywhere, at times that suit them best, in situations in which accomplishing work would not be possible without the support of computer technologies. Most important in the quotes is the constant allusion to reconciling work and life matters, pointing towards the fact that Tm-N permeates T-Nomads work and life, as will be discussed in detail in the next Chapter of this thesis. The following Vignette from Tom reinforces the argument:

*Before I came here, I was actually applying for a job and it just so happened that they wanted to do a telephone interview during my ski holiday I had planned, and so I had to actually submit my CV and write some e-mail responses in order to set this up and then hold the interview on a morning before I went out skiing and having a cell phone and a laptop made that possible even. I wouldn’t end up being able to do it, I would have either to postpone the interview or cancel my vacation in order to do it, if I couldn’t take all that stuff with me.*

**Vignette 6. Taking a job interview during a ski holiday (From Tom’s Interview)**

Indeed, technologies are frequently seen as the great enabler for people to experience work and life the way they would like (Perry *et al.* 2001; Salazar 2001; Towers *et al.* 2006; Meerwarth 2008). Vignette 6 portrays this vision: Tom did not have to give up either his job interview or his ski vacation, and, in his own words, he owes it all to technology. In his quote above the Vignette, he refers to the fact that technology gives him the freedom to attend to family business without having to stop working. It is the ultimate expression of his control over where he works and when he works that gives him great satisfaction, as is Josh’s realisation of the life of his dreams.

However, I draw attention to the fact that it is questionable to consider technologies the sole enablers of situations like these. It would be plausible to ask: would Tom be able to deal with the interview situation if work and life activities were not flexible? Interestingly enough, the flexible nature of the work activities to be developed was often taken for granted: only one participant mentioned that she engages in doing Tm-N because her job allows her to do so. In fact, this aspect is also neglected in the literature sometimes, with researchers overly exploring the technological support as enablers of Tm-N to the detriment of other relevant
aspects like the flexible nature of the activities in question and a spectrum of motivational forces driving the process, as discussed in Chapter 4.

Another element that arises from the data presented so far in this section is to do with *multi-tasking* and *personal productivity*. The participants often alluded to the fact that technology enables them to be more productive as it allows them to engage in multiple activities at the same time. Kate approaches the topic directly:

> Well I'm very prone to multi-tasking. I should just do one thing at one time but I usually have a lot of things going at the same time. Once I have lists and once I have check lists and so on that I know, yeah that's done, that's done, that's done, I can do multiple tasks. I don't like to waste time really, so I wouldn't like to be standing at the top of the room for two hours while the students work away and me not have anything. I decided, 'oh I'll update our website. I'll do that now and I'll use some of the lab materials to update our website and if they're questions I'll come down'. So at least I feel it's been a productive two hours, because sometimes they have no problems and they don't ask any questions and then you're just standing there. The technology enables me to do that as well [...] Only a couple of years ago you just had to walk around looking over everybody's shoulder asking them, 'are you okay? Are you okay?' and you couldn't do anything else because everything was in your office. But you can now which is great. (Kate, Follow-up interview)

Note that there is certain *ambivalence* in Kate's comment: she states that she is a multi-tasker, argues that technology enables her to put this skill in practice, and finishes up saying that this is *great*. However, at the very beginning of her account, in a moment of reflection, she mentions she should do just one thing at a time. This ambivalence will be further explored in Chapter 6 when discussing the implications of *Tm-N* in the participants' lives. For now, we should note the discourse on how technologies are perceived as a great enabler for the participants' lives. Reporting on a day when she was attending a conference, Shannon goes on to tell about the concurrent activities she engaged in:

> I took notes on my paper notebook, I googled some of the websites the speakers were referring to on my Android phone, and took a few pictures. I also tweeted about it. [...] I would have missed a lot of context. Not being able to google people and sites would have made the experience poorer and would have prevented me from contacting specific people. I found out that Christine, a former [...] student, was around because she saw my tweets and I saw hers. I was able to convey questions from Limerick to the people attending the event. I was also able to follow what was going on on the back channel – which gave another dimension to the event. (Shannon, Diary)

Once again, the discourse of the great enabler is evoked. Shannon could do many things at the same time and technology gave the event another dimension. According to her, without technologies the experience would be poorer, however
one could ask: poorer in what sense? Would splitting attention between different channels not allow her to focus and to make the most of what was going on at the location where she was? Why split attention between so many activities? Is it all about productivity? The answer for some of these questions can be found in Chapter 2, as I talk about the spectrum of motivational forces leading people to engage in nomadicty – especially on the section discussing the relationship between Tm-N and enhanced productivity. The answer for some others will be introduced in the forthcoming chapter. At the moment it is significant to acknowledge the relevance that is attributed to technology and to understand the technological paradoxes associated with it. In this way relevant insights may be generated on the design or improvement of innovative tools to support T-Nomads with their Tm-N.

5.4.2 “And then they fail you...”

So far I have discussed the benefits that people can get from the use of technology with special focus on how computer technologies can support Tm-N by facilitating the mobility of the workplace to an assortment of locations. However, as previously stated, in order to accurately understand the meditational role of technology in Tm-N, it is necessary to take into account the paradoxes that are associated with its use. As Postman (1992) insightfully puts it, “every technology is both a burden and a blessing; not either-or; but this-and-that” (cited in Sørensen 2011, p.52).

However, although frequently acknowledged in the literature, the implications of the underlying technological burden usually fade away as the analysis of how people use technologies to cope with different aspects of their work and life is developed, as noted by Perry et al. (2001) and Meerwarth (2008). Therefore, a feeling remains that whereas there are problems, people do not pay attention to them; they overcome them – and because of that designers and developers should not be so concerned with technological hindrances. I, on the other hand, draw attention on the importance of elaborating on both sides of this technological dualism and its effects, so that a better technological support can be provided to T-Nomads. Hence, whilst the previous section approaches T-Nomads’ feeling of being
empowered by technologies, this section, in turn, exposes the situations where technologies stop being a helper and start acting as a hindrance.

If careful attention is paid to the first paragraph of the previous section, I purposefully use the statement “make them feel they have more control over their work and life”, instead of “allow them to have more control over their work and life”: this is an attempt to convey my understanding that technologies may offer people a false sense of being in control. Technologies are useful, indeed, they undeniably make people feel good in many situations, as observed in the previous section, but then they often fail them. Lucy's comment confirms this argument:

Well, I guess I always try and have double, [or even] triple versions of everything with me. So it's been a long time since technology, not failed because it does fail, [but] since I was strained, let's say. So, it's been a long time since I was unable to present because I always have backups, I always have some strategy, you know, because it happened to me in the early years. Even when the internet wasn't as reliable as it is now, not as easily accessible, say when you needed cables to access it [I had strategies]. Now you can do it with the phone, because in the worst case scenario, I can even access a copy of my presentation here and I can read it aloud and talk. So I guess you get frustrated but in a way, I always expect something not to work. So in a way I take the default that “yes I'm gonna be let down”, therefore I need to have strategies to avoid that, and then, of course, everything works most of the time, but I never want to think like that because that is the time when you're let down. So I think the worst case scenario would be: you end up in a conference and you have no means of giving a coherent talk, but that would really mean that everything fails, that the projector's not working, that you can't get your presentation, that your USB key can't be read, that your phone can't go on-line... So I suppose that this is difficult. (Lucy, Interview)

Lucy reports that it had been a long time since she was let down because of technological failures. However, she is emphatic in saying that this is not because technologies do not fail her: on the contrary, she highlights and repeatedly says that she operates from the premise that technology will fail and let her down, therefore she develop strategies to avoid unpleasant surprises when she needs to mobilise her work resources to specific locations. For that, she keeps several duplicate copies of her files that would be accessed by different means. Whilst affording her flexibility in terms of accessing resources so that she is not let down, the very fact of having to create different versions of her files illustrates the burden that T-Nomads frequently undertake in terms of the mobility of their workplace. Shannon recounts some episodes when she had the opportunity to observe technologies failing people engaging in work in unfamiliar locations as examples of things that can go wrong when working at different locations:
I had this friend of a work colleague's, a Canadian guy who came in with his laptop and wanted to give a presentation that contained videos and his laptop output wouldn't work. The room didn't have a projector, it had, you know, a LCD screen, which for a talk where he was trying to demonstrate working videos and stuff like this is not good enough, so we needed to bring in a screen, another laptop, the whole thing and it took us an hour. You had to prepare well in advance and this is not always possible, if you have a conference (...) the speakers are changing every twenty minutes you have to be very quick and in an event, it happened with [name]'s presentation, it went wrong and we couldn't project it and she was very good, she started talking and she has a presence there, she knows her stuff, but it was so embarrassing, everything went on until [name] came on and she was very emotional, you know, and she was afraid that it was going to go wrong. (Shannon, Follow-up Interview)

This last excerpt points out that technology influences people's expectations: it can set people's expectations high, but not always deliver them. Technology seems, therefore, to be part of an active process in both constituting people's expectations and disabling them at the same time, which may cause disappointment or frustration, as Josh points out:

So, occasionally I will lose my broadband connection at home and if that happens to be during a period where students would be involved in exercises and I need to be available to give feedback, it becomes very frustrating. And it hasn't happened in a critical situation, for more than couple of hours, and that ended up being fine. But several years ago there was a period where it was a question of “Ok, there is nothing for me to do” and I would have to get in my car and drive 45 km into campus and use the computers there. (Josh, Interview)

Bridget reinforces it by saying that:

... [it] really annoys me when I have to do things that could be done anywhere, but I have to come in to the office because of the inefficiency of myself [emphasised] or of the system, and whether it's myself or the system, either way, that really creates a lot of work. Also, it makes the movement to that specific place to do the task much more frustrating... The promise of technological connection is great, [but] the reality is constrained by skill, infrastructure, patience, and that is added to by the frustration when the problem can't be achieved. So sometimes it can add distress, and if it was never possible in the first place, the distress wouldn't be present, because the expectation wouldn't be frustrated (Bridget, Interview)

Therefore, it can be argued that technological paradoxes are even more critical to T-Nomads, especially when it comes to technological failures, given that T-Nomads are often working in (un)familiar locations, which are potentially distant from other locations where they could find the resources that they need for a work task. Such failures may hinder T-Nomads' choice of engaging in work in locations that they would like and may force than to move when they do not want to, giving rise to distress and frustration. This became strongly evident throughout the fieldwork.
5.4.3 Beyond technological failures

In addition to technological failures, there are situations where workers cannot use the technologies they had planned to use – Vignette 4 in section 5.1 illustrates one of these situations: Jenny brought her technology with her and was expecting to use it to perform her work. However, due to organisational constraints she could not do so. In Sørensen’s (2011) words, she was faced with an “organisational paradox” (p.50). By triangulating the data from Jenny’s diary with that of her follow-up interview, it became evident that such a paradox is a constant source of frustration for her:

... I brought my iPad and they stayed in my backpack the whole time, they gave me a sheet of paper that I needed to fill out, I didn’t have wireless anyway, so I ended up walking around with all my technologies on my back with a piece of paper and a pen. It was funny. I’m not anti-paper as I said, there are some things that I need the paper for... but [...] there are things that can be done paperless. I’m gonna have to fill out these reports by hand and mail them back by snail mail, you know, by post, and that’s the way the system is, whether is for legal reasons or whatever, that’s the way it is, you know, it would be more interesting if I could just type out the reports and e-mail them back. (Jenny, Follow-up Interview)

These situations do happen and the technologies that should have worked as a helper become a hindrance. In fact, in this case the non-use of the technology becomes a hindrance: by not using the intended artefact, something that can be easily done becomes difficult and it is not easy to understand why it should be done the hard way (e.g. sending the reports back by snail mail) when it could be done in a smoother way (e.g. e-mailing it). So what can be done to avoid this? The widespread development of a nomadic culture at different levels (e.g. organisational or societal) as suggested by Chen and Nath (2005) would be a start. If that would be enough is a question for future research to address.

5.4.4 Added Complexities

Continuing with the analysis, technology can bring about complications. Through the fieldwork, it was possible to observe how the use of different technological devices can make people’s lives difficult. Most of the participants had at least two laptops: one purchased with their own resources and another with research or other university funding. They tried to keep the former as their personal device and the latter as their work device, but, unsurprisingly, things merge:
... now that I have a work laptop and a home laptop there is some blending. Obviously I work at home, so I’ll work on my home laptop and I’ll bring stuff over here. (Jenny, Interview)

This introduces a topic that will be extensively discussed in Chapter 6: the blurring of work and personal lives. However, the important aspect to observe at the moment is to do with the complexities added by the use of different devices to support Tm-N. Although this aspect has already been addressed in the literature – e.g. when Rossitto (2009) discusses the constellation of technologies used by nomadic groups of students to do Tm-N and the difficulties to keep track of every tool used in the process – approaching it here adds a perspective to the discussion of how technology can become a hindrance to Tm-N in some situations.

In regard to the use of different technological devices to access and work on informational resources, there is still a layer of complexity that is to do with synchronisation. At first, it seemed that problems with synchronisation no longer existed once it has become increasingly popular the use cloud computing services (Sørensen 2011). One of the services constantly mentioned by the participants was Dropbox60, a free online file storage service that allows for anytime/anywhere access to data:

... that’s an amazing service. Before that I had to bring memory keys with me or my laptop. Now I upload the files at home [...] and I come here I open the folder and the file is in the folder. So I have a shared folder between all my computers, and [...] I can upload materials from any computer that I have and I don’t have to synchronise them manually. Before that I always had problems synchronising things. There’s something in my memory stick, there’s something on my laptop, something on this machine, something on that machine and in the end of the day you forget, I forget which one is the latest version and I end up having five copies of the module. (Claus, Interview)

Once again the great enabler discourse is evoked suggesting that the problems with synchronisation are solved. However, as the fieldwork advanced, I could notice that this seamless synchronisation is not yet fully realised. As discussed in section 5.4.4, a variety of protocols exists preventing this seamless synchronisation from happening. Jenny directly comments on the topic as she talks about how technologies could better support her in Tm-N:

I think right now the biggest problem is that there are too many protocols for networks you know? Okay sure they all run under IPs TCP/IP on some level, but there are so many

60 http://www.dropbox.com/, visited on 20 Apr 2013 at 8:45 GMT
layers in front of that that there’s a lot of incompatibilities. Worse is that there is so many viruses and so many other things that you have different groups putting different kinds of firewalls with different levels of protection, like I’ll give you a simple example: no instant messaging software except Skype works in my office because of the type of firewall that UL has. So right now the only way I can keep in touch online is through Skype, but I used to keep in touch with my friends more often through things like Aim and ICQ but since I spend most of my day here, and it doesn’t work here, I’ve lost touch with people using those. (Jenny, Interview)

Jenny’s account exposes how the variety of technological resources that are used to accomplish Tm-N somehow becomes a hindrance to it. The variability of protocols and software applications that can be used to keep in contact with people adds a complexity with regard to the management of different usernames, passwords and contacts. Additionally, as Jenny states, the existence of incompatibilities between protocols used for those applications prevents her to access some of them at some locations, and, as a result, contact is lost. That is another paradox, a technological one: technologies that should keep people in contact actually keep them apart depending on how they are configured across different locations. As for the synchronisation issue, Jenny refers to it as she elaborates on her previous comment:

... I have had problems with it because this goes back to my comment about how protocols are different and everything else. Most of my devices are Apple so my iPod and iPads sync through iTunes. That’s fine as long as I’m looking at Apple software but, my iPad has non-Apple software and the way they’ve hacked that whole iTunes thing is you can actually sync it wirelessly. But (...) until recently (...) this building had very bad wireless and nothing would work. So I couldn’t sync my laptop and my iPad at work unless I, and this is where I hacked it, I would turn my Airport onto my laptop into a wireless network itself and share my Ethernet connection, and then I would use my iPad to connect to the laptop and then this third party software thought it was on the same network and actually worked by syncing that way. (Jenny, Interview)

Synchronisation is indeed a relevant practice in Tm-N in that it allows workers to have access to the most up-to-date version of a resource when they engage in work that makes use of it. Inconsistencies between devices can lead to unnecessary redoing of things or to problems with time management as discussed elsewhere (de Carvalho et al. 2011). However, as becomes apparent across this section, synchronisation can add an extra layer of complexity to Tm-N. Although advances have been made towards the automation of this process (Sørensen et al. 2005), it became evident from the data that some participants are still sceptical about it. Shannon, for instance, mentions that she never trusts the synchronisation feature
Technologically–mediated Nomadicty in Academic Settings

offered by some devices. She is reluctant to grant control to the device: “I want to be in control”, she says. Kate also refers to this problem:

I don’t know if I like everything being that automated by itself. I like to have a little, I like to decide when I want to update my phone, I like to plug it in myself. I feel when things are that open and they’re exchanging data so much they’re not as secure maybe. I prefer to decide, I know it’s a couple of minutes past, but I prefer to decide to synchronise my iPad with my desktop now, rather than it synchronising all the time. I would be worried I would lose a file in the process or that I would be manipulating something on the iPad and maybe partially manipulating it on the screen and files would get corrupted and so on. I think I like that bit of control. I don’t want the machine to take over everything entirely. (Kate, Follow-up Interview)

The previous excerpt suggests that the relevance of automation in Tm-N is questionable: in reality the data suggest that when it comes to Tm-N, designing technologies and procedures that afford for smooth performance is more important than automating them. Designers and technology developers should be attentive to this.

To conclude this section, synchronisation is not the only thing responsible for the complexities added to Tm-N in regard to the use of different technologies. As was evident in one of the quotes used in section 5.1, the simple fact of having many pieces of hardware devices in the chain enhances complexity in the performance of a task and the possibility of hardware failures.

5.4.5 Enabling “bad” practices

Last but not least in this discussion about how technology may become a hindrance to Tm-N, the temporal reconfigurations enabled by technology (and often cherished by people who engage in it) is addressed. As discussed by Kakihara and Sørensen (2001), the use of computer technologies has augmented the temporal dimension of mobility by offering effective ways to perform asynchronous communication, allowing people to deal with certain matters as time becomes conveniently available to them. Indeed, reconfigurations of time and space in contemporary society have been extensively discussed in the literature, as is possible to observe, for example, in Castells’ classic theory of the Network Society (Castells 2000).

Nonetheless, referring to Sørensen’s (2011) discussion of the conflicting relationships between technologies and their users conducted, it should be
remembered that the use of technology can unleash practices with undesirable effects. This is not different in Tm-N. In fact, the combination between the flexible character of nomadic activities and the temporal reconfigurations afforded by technology can become a hindrance, in this case, not to Tm-N itself but to the accomplishment of work. Cathal goes on to tell how technology enables the “terrible” practice of checking e-mails across the night when he cannot sleep:

Since these phones have come about [showing his Smartphone], I sometimes actually [check emails late] at night – it sounds terrible – at 4 o’clock in the morning. If I can’t sleep, I will pick the phone up, check e-mails and I might answer 3 or 4 e-mails. Sometimes actually I don’t answer any e-mails because it’s gonna look really bad that I answered that at 3 or 4 o’clock in the morning (laughs) (Cathal, Interview)

Catha’s account is on one of the practices of his Tm-N ecology – checking e-mails during the nights when he cannot sleep – one that, for him, is ambivalent, as observable above. On one hand, he can get some work done at a time that is available to him and that he could not possibly engage in other activities; on the other hand, he notes that it sounds a terrible thing to do and sometimes, although he reads an e-mail message and becomes aware of something that he has to respond to, he cannot actually reply to it because it would “look really bad”, a finding that contrasts with findings on impression management from the literature (Duxbury and Smart 2011). Tom refers to the matter when discussing how technology has enhanced mobility over the years:

In the old days, before PowerPoint you used to make slides and print them out in transparencies and project them in overhead projector, right? Which meant that before you left for a conference, you had to have your talk finished, because you needed to print your slides out on transparencies, all right? And often that required special printers that can print on transparencies or alternatively special transparency that (…), doesn’t melt (…). So you just had to be ready to go. Now it’s like you don’t have to, you can always edit your presentation on a plane, or the night before, or the morning of. So the technology allows procrastination or enables it […] I never feel like I have to finish any task before I go home, because it can go with me. (Tom, Interview)

Tom’s quote exemplifies how the digitalisation of informational resources impacted on the mobilisation of work in that it made it easier to take work to

61 Whilst findings by Duxbury and Smart (2011) suggest that sending e-mail very early in the morning can be a way to convey the “image of an ‘in-demand’, hard-working, committed employee”, Cathal’s observation draws attention to the fact that this is not always true and it may actually be seen as a bad practice.
different locations. Although such a mobilisation is useful in different situations, Tom is aware that it allows or enables procrastination, which can be seen as an undesirable practice, especially when it comes to meeting deadlines. This issue became even more evident to me during the shadowing sessions. For instance, on the day Philip was shadowed, he set himself to do a couple of things in the office before moving to a lecture hall where he would deliver a laboratory session, and one of these things was getting prepared for the lab session. While in the office, many other things got into the way of his activities and in the end he could not prepare the lab.

The above excerpt is illustrative of how technologies and the lack of strict constraints may become a hindrance to an important activity. It depicts how
accessible Philip becomes via technology and the price he pays for this enhanced accessibility. It also exemplifies how time is reconfigured as new events are integrated in the nomadic process and links to the dynamic aspect of \( Tm-N \) presented in section 5.1: it shows how synchronous and asynchronous interaction is manifested in the dialogue between actants used as \( Tm-N \) unfolds.

Furthermore, the data presented throughout this sub-section illustrates how \( Tm-N \) is not only a process to do with moving to a given location and engaging in work at that location, but also a process that involves bringing work from other sites to the one where the person is currently working. Philip tries to reduce procrastination and makes use of certain strategies to force himself to engage with work in opportunistic times (e.g. sending a short e-mail acknowledging that he is working on something and that he will resume that activity at another moment). It shows the asymmetry in work mentioned by Sørensen (2011) as depicting “the tension between technological assumptions of unfolding interactivity and the individual and social expectations or demands of how interactions should unfold” (p.55) (e.g. when Philip gets a phone call 5 minutes before his lecture was expected to start and he has to decide whether he will answer the phone or not).

Situations like these were frequently observed as the fieldwork proceeded and suggest that the claim that technology empowers people is questionable. Taking account of the previous scenario one might reach the conclusion that they do not. However, as stated previously in this section, technology is like a double-edged sword: it empowers and disempowers people at the same time. Paying attention to the situations where it does one or the other thing is important for designers who strive to design usable, useful and acceptable technologies (Norman 1998).

5.5 Summary of the Chapter and Final Remarks

In this chapter, I have explored the dynamic and mediated aspects of \( Tm-N \) and have illustrated some practices that come together for the accomplishment of work in a range of locations. The findings herein presented suggest that \( Tm-N \) emerges from \( T-Nomads \) engagement in an ecology of practices that support or results in the mobility of the resources for the accomplishment of work to distinct locations where \( T-Nomads \) accomplish their work tasks. These practices involve activities
regarding: the assemblage of actants that are to be used for a work session; the assemblage and disassemblage of temporary workplaces; the reconfigurations of time and space – and even home, leisure or other work activities – to get specific work tasks done; and the paradoxical use of computer technologies to support Tm-N.

The data presented so far illustrate why Tm-N can be seen as a dynamic process that is done by people and unfolds as they engage in practices that enable them to accomplish work at a variety of sites. As observed throughout the chapter, T-Nomads engage in such practices in a fuzzy and organic way as they need or have the opportunity to get work done at and across different locations. Hence, the assemblage of actants that are to be brought to a particular location can become intertwined with synchronous or asynchronous interactions with people who are present in that location, or with the development of unexpected work activities at the site where the workers currently find themselves. For this reason, I argue based on empirical evidence that these practices simultaneously exist and cohabit in an ecology: they are related to each other and they benefit and support one another as Tm-N unfolds.

Having elaborated my thoughts on the emergent aspect of Tm-N, I now move on to address the last level of abstraction of the perspective on Tm-N that I present in this thesis, which is to with how engaging in Tm-N may blur the boundaries between two different dimensions (or spheres) of T-Nomads’ lives. It is feasible to think that Tm-N may emerge when people are dealing with different aspects of their lives, e.g. when they are at home or on holidays, as some quotes presented throughout this chapter have already suggested. The next, and final chapter goes deeper in the analysis of how Tm-N goes beyond a work condition and exhibits characteristics of a process that emerges from the ways in which people deal with different aspects of their work and non-work lives and that sometimes is purposively initiated in an attempt to make the most of both of those dimensions.
As I have mentioned already, literature on Tm-N usually addresses the topic as a matter to do exclusively with work. With the exception of a few authors such as those collected in Meerwarth et al. (2008a), who discuss Tm-N as an approach to modern lives blurring the distinctions between work and non-work matters, several other authors limit themselves to analyse Tm-N as a work condition or a strategy to cope with work in current society.

Whilst studies in CSCW and HCI such as the ones conducted by Rossitto (2009), Su and Mark (2008) and Perry et al. (2001) focus their attention on work activities being developed nomadically, organisational studies such as those presented by Chen and Nath (2005) and Bean and Eisenberg (2006) explore the impact of such an approach to work-life upon organisations. Other authors such as Kleinrock (1996) and Lytinen and Yoo (2002b), who speak to Ubicomp field of research,
limit themselves to technological support considerations for \textit{T-Nomads}. The latter authors discuss issues to do with the strengths and limitations of the so-called nomadic computing environments and their use for work, but keep a distance from discussing how the use of technologies in those environments may affect the boundaries between professional and personal spheres of life.

In reality this separation between work and non-work dimensions of life is not exclusive to research on \textit{Tm-N}. Golden and Geisler (2007), for instance, point out that until recently work-life management research tried to separate these two aspects of individuals’ lives. However, the authors highlight that the interpretation of these boundaries until recently assumed the existence of two domains of life experience – workplace and homespace: the former is associated with “\textit{competitive individualism, rationality, and profit motive}” and the latter with “\textit{relational concerns, emotions, and altruistic nurturance}” (p. 520). However, more recent work has moved towards understanding work-life boundaries as permeable.

Indeed, the work and non-work dimensions of \textit{T-Nomads’} lives seem to be becoming progressively blurred, affecting the ways in which people see themselves and construct their identities (Gluesing 2008; Jordan 2008). In conducting fieldwork for this thesis, it became clear that \textit{Tm-N} goes beyond work: it blurs the distinctions between the professional and the personal. The data show that by engaging in \textit{Tm-N}, the blurring of \textit{T-Nomads’} work-life boundaries may be intensified as they find themselves working in places that would traditionally be used to socialise (e.g. home, cafés or pubs), and socialising or dealing with family issues in places that would conventionally be used for work (e.g. the office), as observed in some literature (Duxbury and Smart 2011). Therefore, this chapter is intended to elaborate on the third and last level of the \textit{Tm-N} perspective contributed in this thesis, which is depicted by the light blue region in Figure 9.

The chapter presents illustrative anecdotes and vignettes extracted from the body of qualitative data collected, which expose how the personal and the professional dimensions of the participants’ lives are getting mixed as they engage in doing \textit{Tm-N}. This is done to draw attention to the fact that analysing \textit{Tm-N} as an isolated matter concerning work exclusively would limit the understanding of the interactions occurring within the ecology of practices involved in doing it.
This chapter is organised as follows: section 6.1 explores the participants’ views on the notion of Tm-N in terms of the similarities and differences they see in their approach to work and life and the approach adopted by traditional nomads; section 6.2 discusses how Tm-N has contributed towards the blurring of work-life boundaries and addresses how the use of the same technologies triggers such blurring; section 6.3 examines the notion of Tm-N as tool for reconciling work and non-work matters with situations where it could act as a constraint; in that section I problematise the blurring of work-life boundaries that Tm-N facilitates; section 6.4 addresses situations where participants suggested that a separation between the professional and personal spheres of their lives would be preferred and discusses the difficulties of doing so; finally, section 6.5 presents a summary of the chapter and reflections on the findings.

![Figure 9. Level 3 of Tm-N: Work-life Contexts](image)

### 6.1 PERCEIVED Tm-N: EXPLORING THE MEANING OF Tm-N WITH THE PARTICIPANTS

This research is committed to understand the meanings that people themselves give to actions and motivations in an attempt to compose a holistic account of the topic under investigation, as indicated in Chapter 3. Therefore, I claim that exploring the participants’ views on Tm-N is an important part of the construction
of the desired understanding of how this process is an integral part of their work-life; this section is dedicated to doing so.

In order to grasp the participants’ views on the topic, they were asked during interviews whether they were familiar with the concept of “pastoralist nomads” and, when they were, they were asked if they could see similarities between their approach to work and the one used by nomads. Except for two participants, all of them came up with some definition close to the one provided by Salzman 2004, portraying nomads as different kinds of people who move from place to place as they need to gain access to resources. With regard to the two participants who said they were not familiar with the concept, I introduced it with a definition similar to the one just mentioned so that I could explore with the participants any connections they could see between their work practices and traditional nomadism.

Unsurprisingly, movement and access to resources were the two main elements mentioned when providing an account for their understanding of the concept. For instance, Jenny defined nomads as:

... a collective, a tribe. So they have a community, a defined community through relations I'd say mostly, and they move their community from place to place as needed by the environment or their cultural practices, whether it's to go south for the winter, grow their food or whatever. That's how I perceive a nomad, a nomadic group. (Jenny, Interview)

Aoife, explicitly evoking the traditional anthropological sense of the word, defined nomads as:

... people who follow their herd. So people whose life is connected to their livestock. So you need to follow your livestock from grazing pastures to fattening pastures and so on. So you are tied to separate places at separate times of the year. So you follow your animals to these places in a very organised and well thought out process that has worked for centuries. (Aoife, Interview)

The quotes above illustrate participants’ common understanding of traditional nomadism. The other definitions provided by participants differ slightly in the wording, but their essence is accurately represented by the two accounts above. Asking the participants to define nomads was important to verify whether they had a similar notion of the concept as my own. Once it was verified that no critical differences existed between my and their understanding of the concept, it was
possible to explore with them whether they could see any similarities between their approach to work and the one employed by nomads.

All but one participant could see some similarity between their approach to work and the traditional nomads’ strategy to keep their productive activities going on. Some of the participants would even describe themselves as nomads, like Claus did:

*My whole life is this. I am a nomad. I came here to Ireland because I could find the resources for my academic career that I couldn’t find in [my home country]. It’s because I had set my mind to have this academic career. I couldn’t do it there so I found the resources here. I planted myself here. That’s the truth. When it comes to smaller things, it’s kind of weird because I’m becoming more and more nomad in my everyday life now. In the last ten years I’m much more mobile with my laptop and my shared folder and my hard disc, network connection. Probably I could be like that years ago because there was technology but my life didn’t require it to be to that extent and now it’s somehow... (Claus, Interview)*

Claus’ views on his nomadic life and the association of his movements with technological mediation are a revealing example of why academics can be considered *T-Nomads*, and give further support for the selection of the domain presented in Chapter 1. Reflecting on the path he followed in his life he reaches the conclusion that he is not significantly different from pastoral nomads: he had to move all his life to pursue his academic career. So being nomadic for him meant being able to pursue the career that he set himself and once again it goes back to the idea of moving to get access to resources.

Claus also attributes two different dimensions to *Tm-N*. He refers to “bigger” things, such as moving his country of residence and immediately after that he goes on to talk about “smaller” things, making reference to increased mobility in his everyday life. As evident throughout the previous Chapter, my interest in this thesis is related to the latter.

Still with regard to Claus’ comment above, his last statement is intriguing: he wonders why he is more mobile nowadays. According to him he could have been as mobile in the past because “there was technology”, but his “life didn’t require it.” That is an interesting remark for three reasons. Firstly, Claus suggests that *Tm-N* in his life is enabled by technologies; secondly, that having technology is not enough for a person to engage in *Tm-N*; thirdly, he suggests that he is more of a nomad nowadays because his life requires it. Respectively, these observations are directly
related to: the mediational role played by computer technologies in \( Tm-N \) – addressed in Chapter 5; the spectrum of motivational forces that lead to getting involved in \( Tm-N \) – addressed in Chapter 4; and the association of \( Tm-N \) with work-life – addressed in the current Chapter.

In fact, as argued in the introduction to this chapter, \( Tm-N \) is a multifaceted process that is driven by different motivational forces. The following quote from Tom reinforces this proposition:

\[
\text{I would say that there are lots of similarities in what actually happens, I mean, they carry their tools, and the trappings of their livelihood along with them in much the same way I probably do […] But, that said, the big difference, I think, I'm nomadic by choice not by necessity, so I don't have to follow that essence of my work around, it's actually quite stable. So, in other words, it would be very easy for me to work here in the office except when I have to go to [the department] to give my lectures and I can live a very stationary work life style between those two locations and then that would be it. (Tom, Interview)}
\]

Tom’s quote exposes a tension between adopting a nomadic and a stationary work-life style. It suggests that for him being nomadic is not an imposition, resonating with perspectives from the literature (Makimoto and Manners 1997). Although he highlights that there are situations where he is compelled to move and to work at a specific location, e.g. when he has to go to the department to deliver his lectures, he evokes a discourse contrasting choice versus survival. That idea is reinforced in the following quote:

\[
\text{So, I think that is the motivation. It's not clear to me that nomads are necessarily nomadic by choice as much as by necessity where there's nothing about the way I conduct my workday other than the fact that it's hard to squeeze in 8 hours, so sometimes it has to go home with me. That said there is an exception, certainly travelling which is a necessity, to go to conferences and meetings and stuff. You can't leave that other work at home, so it has to travel with you, and that is an example, I suppose, of where one is travelling to work, taking along one's tools of the trade or whatever resources. (Tom, Interview)}
\]

Once again, except for some situations, Tom thinks he has a choice to approach his work nomadically or not. This view resonates with the other participants. According to them, the choice element is one of the main differences that they see between their approach to work and the approach employed by traditional nomads. For instance, Aoife gave the following answer when asked whether she would see any similarities between the strategies used by nomads and her own strategies to deal with work:
None [making reference to the similarities]! Thinking about the traditional nomad, they're following paths and processes that have been established as the best way to live their lives and to maintain their herds and maintain their lifestyles over generations, whereas I'm just trying to get stuff done. (Aoife, Interview)

Aoife says that nomads move to live their lives in the best way they can; she, on the other hand, is “trying to get stuff done”. However, on closer analysis of her interview, Tm-N emerges in her life as she tries to cope with it. For instance, her husband holds a full-time position in Dublin and she currently holds a part-time position in Limerick, so they decided to live in Dublin. She comes to Limerick once a week and stays for two days in the city; then she goes back to Dublin. At another moment of her life, when she was a full-time Postdoctoral Fellow at the University of Limerick, she and her husband lived in Limerick. At that time her husband held the same position as he currently holds, but since he could work from home, they decided that he would move with her to Limerick. The data suggest that working in different locations allows her to live her life in the best way she can: she can keep her position and live with her husband, who prefers to stay close to the city where the company he works for is located. This became clearer to her after she had her first child, something that happened shortly after the shadowing session she participated in. On the first interview she mentioned that she was not used to bringing her laptop to Limerick because she had a desktop PC in her office and she would not work on the train, because she found it hard to concentrate. However, by triangulating these data with that of her follow-up interview, one can observe the changes in her discourse, as she goes on to note that things have changed after the baby’s arrival. She feels like that she now has to make use of all the dead time she has so she can have more time available for taking care of her baby. Because of that she started bringing her laptop to Limerick and engaging in some activities that would take up some of her time in the office (e.g. reading e-mails) while she commutes. This depicts how T-Nomads engage in Tm-N to live their lives in the best way they can.

These accounts exemplify some of the nuances surrounding Tm-N and how T-Nomads make sense of it. As argued throughout this thesis, Tm-N arises from the data as a process that people do through their movements that are driven not only
by the need to get access to resources but also by particular motivations and opportunities that lead people to engage in work in different locations.

6.2 **TM-N as a Process that Blurs the Boundaries between the Work and Non-work Lives**

As discussed in Chapter 4, sometimes it is not possible to restrict the creative part of knowledge-based work to specific time frames and spaces since it is dependent on the unpredictable availability of resources such as inspiration and the mood for work. Not only that, several other elements can lead workers to TM-N and, as a result, they may find themselves working outside the traditional “9 to 5” working hours and in locations beyond their “official” workplaces (Salazar 2001; Duxbury and Smart 2011). Besides, nowadays personal issues can easily reach people in their workplaces due to the increased accessibility that technologies used for TM-N afford (Towers et al. 2006). These nuances of TM-N process are depicted by Philip in the quote below:

> I don't think I have [any boundaries]. For example my wife is going to call in here [the office] now in order to take advantage of my better Internet access (...). My kids call up fairly regularly because of the fact of the proximity of the national school where my children are. In general they’re collected by their mother but if there’s after school or whatever they can come to me here and they can do their homework on the table here. So I don't think I set any boundaries. At home I would always be, most evenings I’d be online either checking emails or doing bits and pieces. (Philip, Interview)

Cathal adds to Philips observation as he reports on how his family is tied into his work:

> They [my family] are probably tied into my work too. My kids go to school at Milford, so they'll walk here [often]. [For instance] this evening when they finish school they will walk across campus to my building and they will study their homework downstairs in [the department] canteen; they will see me walking pass, like, if I have to go down and walk through the corridor, I'll see the 2 kids down there with their books, doing their homework in [the department], and when I am finished – and that is flexible side of [the work-life of academics] – we can go home. So if I had a meeting, they'd be [down] there, and if I was finished and I didn’t have to be there [in the department anymore], I know I can go home and do the e-mail thing. So I would go to them and just say: “Come on, let's go!” Then I will go home and sit down on the laptop and do my thing. (Cathal, Interview)

The fact that T-Nomads engage in work at the same locations where they usually engage in social or family activities, at times when their friends or family
members are around, and the fact that personal issues can arise while they are at work and can be handled from there, suggest that work and non-work lives are becoming progressively more intermingled and consequently influencing the way that people experience these two dimensions of life and manage them (Towers *et al.* 2006; Duxbury and Smart 2011). These findings emerged strongly from the empirical data collected through fieldwork supporting the claim that Tm-N permeates the work-life of T-Nomad. The following sub-sections will explore the work-life issues that may stem from engaging in Tm-N.

### 6.2.1 The Relationship between Fluid Work and the Blurring of Work-life Boundaries

During the data collection activities, participants recurrently acknowledged the fact that there has been an increasing dissipation of the boundaries that once existed between their professional and personal lives. For instance, Tom says that he no longer diverts the two of them:

> [...] ahm, because it’s so easy to work from home I always do every day; and when I travel I always do a little bit of work every day, because it’s no longer really to me an issue of work-life balance. Work is just a part of my life, just like exercise should be and socialising. It’s what I do, so I don’t divorce those two anymore and I don’t have to. (Tom, Interview)

According to Tom, work-life balance is no longer an issue for him. He compares work to other elements of his personal life such as exercising and socialising, suggesting that they are all part of the same thing. This idea is echoed by James as he underlines that for him there are no such things as work and non-work lives. According to him, they are different things that are part of the same continuum:

> It’s quite tricky. To me it’s not a difference as such, it’s just the continuation of different things. So while I might be working on a calculation in a spreadsheet, I might be answering an email etc. I might also be trying to pick a few nice photos taken with a digital camera to build a little book to be produced somewhere to send to relatives for Christmas. It’s the same tools but used for different purposes and there’s no difference in that activity more than my own attention. (James, Interview)

Gabriel draws attention to the fact that this fluid notion (Kakihara *et al.* 2002; Rossitto 2009) is particularly inherent in academic work and, as a consequence, it becomes very difficult for academics to separate between work and non-work dimensions of their lives:
I try [to separate between work and life], [but] it’s very hard for academic people to do that, because, as people say ‘oh, you get loads of holidays and blablabla’, yes, we do, but we actually work during this time doing all types of stuff [...] Sometimes we [even] don’t sleep for four days and then we relax for the following three [days], for example... (Gabriel, Interview)

In truth, participants often evoked the fluidity of their work activities to explain why their work-life boundaries are becoming progressively more blurred. The participants suggest that work flows across all areas of their lives and because of that they can be – and they effectively are – constantly working. This issue is evidenced as Tom’s goes on to describe how work and non-work matters become intermingled as his day of work unfolds:

[...] when you think about all of the things that are involved in work, there’s incoming e-mail requests some of which are pertinent to the project that you might be working on that time, some of which are not, you know, maybe just reminders or you have to submit this report for time keeping purposes or whatever and that has nothing to do with you’re working on that time. And then there’s the [time], you know, we are all getting together for, ahm, just for leaving party for so and so, well, that’s not really work but it’s all the same people you work with, right? (Tom, Interview)

The data suggest that it is becoming more and more difficult for T-Nomads to say when they are working and when they are not, as noted by some Tm-N literature (Salazar 2001; Gluesing 2008). Furthermore, the data propose that the sense of being at work depends on the activity that a person is undertaking at the moment, and not necessarily on being in a particular location. Participants recurrently mentioned that since they can easily carry their work with them, they feel that they are never disconnected from work. Thus they feel that they are continuously working wherever they are, whatever the purpose of being at a particular location is, like Jenny expresses below:

I live my work. I see what I do as a vocation not a job. I do it at home, I do it in the office, even if I’m travelling I have at least my email. I’m constantly working. [...] I work at home and I play at home. I work in the office and I’ll play in the office too if I need a break, you know? I’m not afraid to step out and do something else for an hour because I know I’m working just as often at home as I am here. My best friends are from my job (laughs). (Jenny, Interview)

From Tom’s and Jenny’s accounts above it is possible to deduce how blurred work and life are becoming for T-Nomads. Although people are not really working all the time, the blurring of their work-life boundaries is such that their perception is that they live their work, they breath their work, their work is part of them in the
same way that their social and family relationships are (Gluesing 2008; Goldmacher 2008; Jordan 2008). From the quotes above it could be said that their work is part of their social relationships as well. Both of Tom and Jenny acknowledge that their work and lives are so bound together that their social lives involve largely the same people. Consequently, it becomes even more difficult to say when they are working and when they are not, since work-related issues can emerge in a conversation when they are spending some non-work time together and the other way around, connecting to Jordan’s (2008) reflection on her nomadic practices by which she questions whether some activities from her daily life should be considered work activities or non-work activities. For example, Jordan (ibid) questions herself whether having a family dinner with a sibling whilst learning about some work-related issues should be considered a work or non-work activity. It could be argued that the answer to the question is positive, if one considers that engaging in the discussion, even that indirectly, resulted in a work outcome, although I am aware that other people would argue for the contrary.

In the case of academics, the blurring between work and life is even more intensified, as academic work allows T-Nomads to work with subjects that they would be interested in their personal life, as observed by Marc:

*Given the job that we do, it’s very difficult to separate those two things out – and probably for different reasons for different people. Some people would say that the research that they do […] is almost their hobby and if something is your hobby that is in the life part of the work-life, alright? So there is nothing wrong with that. (Marc, Interview)*

This account links to recent debate in CSCW literature about false separation that much of CSCW research attribute to work and life (Brown and Barkhuus 2007).

Reflecting on the data presented above, I argue that in order to accurately understand Tm-N, the ecology of practices that it encompasses, and the reasons why people have been engaging in it, it is important to take into consideration the blurring of work-life boundaries. Although Tm-N refers to the process of accomplishing work in and across a range of locations, non-work matters may impact upon the way that work activities get accomplished or influence the dynamics of the process.
For example, in regard to the former, work can be shaped in different ways when people are working at home while taking care of a sick child or when they are alone at the same location. As for the former, $Tm-N$ may be intensified due to different personal reasons, such as being closer to a family member, like it happens with Aoife. In her case, $Tm-N$ was intensified for two different personal reasons: firstly the nomadic dimension of her life was augmented so that she could keep her job position in Limerick and stay close to her husband in Dublin, and secondly the process was intensified so that she could find more time to take care of her newborn child (see section 4.2.2.2 for further reference).

Thus, I argue that it would be very difficult to understand $Tm-N$ without taking account of workers’ personal lives. Once workers engage in fluid work, it is very likely that they will experience blurred work and non-work lives to some extent, as the data presented so far suggest.

6.2.2 Where the Blurring Starts: Technology, $Tm-N$ and Work-life Boundaries

As discussed before in this thesis, computer technologies play a relevant role in $Tm-N$ as they facilitate the process in such ways so that people feel motivated to engage with it (see section 5.3 in Chapter 5). In enabling $Tm-N$, technology also contributes towards the blurring of work-life boundaries, as the participants of this study have suggested. Aoife, for instance, comments on the matter:

*I suppose they [technologies] help the boundaries to change given that 15 years ago when you left your office and you went home that was it, because you didn’t have the Internet [...] It was clearer, it was much easier to close the door on your work I think and that, ‘okay well I’ve left the office’ and your mindset would change, ‘I’m not at work anymore I’m at home or I’m out’. Whereas now, because we can bring it with us and most people do bring it with us, you can check your email on the beach. You can check your email at home at 10 o’clock at night. (Aoife, Interview)*

Aoife acknowledges that technologies allow the notion of workplace to become fluid, as Kakihara *et al.* (2002) and Rossitto (2009) have previously identified in their studies, and because of that work has become very ubiquitous. Participants often mentioned that, whereas before work would end when people left the office, nowadays telephones, mobiles, smart phones among others make them so available that they end up working at times when they are not supposed to be
working, as suggested by authors such as Duxbury and Smart (2011), Towers et al. (2006) and Lal and Dwivedi (2010). “Closing the door of the office” seems to have been replaced by turning off all the technologies that could give access to work or make one accessible to it.

It is clear from the data that the blurring of the participants’ work and life starts with the technologies (i.e. devices, applications or services) that they own or use to manage the different aspects of their everyday lives. The data suggest that the use of the same technologies to deal with those aspects ends up blending aspects of the work and personal dimensions of life, even when people try to use different technologies, as Jenny suggests:

[...] these hard drives are mine. I bought them all and some of them have work stuff on them, some of them have my iTunes and iPhoto libraries on them and that’s where we start to get into the lack of work and life boundaries again because my job is to work with media and some of that media is personal, some of that media was specifically shot or recorded or bought for work, but all of it together constitutes my career. So there is some blending. My personal photos are in my iPhoto but so are my photography shots and so on. So yeah, they blend. But you’re right, this one is mostly work. (Jenny, Interview)

Jenny reveals a merging of professional and personal technologies and resources. She points out that some of the devices that she keeps in the office (e.g. some external hard drivers) are private property; however, although they are personal devices she uses them for work purposes. She also explains that some of the media that she uses at work are her own personal media, but the use of those media ends up being part of her career. This clearly illustrates how work and life can get blurred at the level of technological apparatus that people make use of, suggesting that as soon as a piece of technology can be used to deal with both work and non-work related activities the practice of its usage can potentially become fuzzy. In fact, most of the participants acknowledged the use of the same technologies for work and personal lives, such as Shannon does in the following excerpt:

I would post things to Facebook that are for the students to see, but I would also post silly things about I went there and this broke and you know, which is not useful information, it’s just I’m interacting socially. So the boundaries are very blurred there. (...)I think the boundaries, we’re using the same tools in the same hours, [and] we’re switching from this to that... (Shannon, Interview)
This fuzzy use of technology could be observed in the shadowing sessions, as the triangulation process progressed. For instance, I witnessed Shannon using the same Smartphone that she uses to keep contact with family members and friends to contact professional partners and to receive and reply work related e-mails. She used her personal accounts in different services such as Gmail, Facebook and Skype, during a lecture in which she was talking about the use of those technologies in the context of the topic she was exploring. She also comfortably showed her online to-do list to students whilst demonstrating the software she used for that and both professional and personal activities could be seen on the list. Indeed she acknowledges that those boundaries are blurred yet during the first interview that she granted during her participation in the process:

*So the boundaries are definitely [blurred], we use the same devices, the same applications, the same places for doing this and that and the same time, you know, because you are at home and keeping an eye on the food cooking on the cooker and you’re typing something.*

(Shannon, Interview)

During another shadowing session, I observed James’ personal calendar being displayed in the lecture hall projection board as he connected his laptop to the projector. It was possible to see his Facebook account to pop out in his laptop screen after he woke it up to go back to work in the office after returning from a meeting in the city centre. These are a few examples of how the distinctions of work and life start being erased as soon as the participants start using the same technologies for engaging in Tm-N.

Although some researchers have already addressed how technologies may impact on work-life boundaries (Chesley 2005; Golden and Geisler 2007), Tm-N is recurrently left out of the discussion. Hence, in this particular Chapter I draw attention to the fact that the blurring of work and life is not happening only because of the use of technology, but in fact because of their use for Tm-N, this dynamic and emergent process that unfolds in people’s lives as they go on to engage with work activities in and across different locations. Moreover, I highlight the need to comprehend the fuzzy use of technology to better understand how engaging in Tm-N may blur the distinctions between work and life. After all, technology can also be used to maintain boundaries (Bødker et al. 2003).
6.3 Tool or Constraint? Problematising Tm-N and the Blurring of Work-life Boundaries

As widely discussed throughout the two last chapters, Tm-N is often perceived as a process that empowers people. The data suggest that participants frequently see it as a tool\(^{62}\) that they can use to better exploit their time, to enhance their productivity and to integrate aspects of their work and personal lives according to their needs or will.

However, it is questionable whether this process is in fact a tool or a constraint. For instance, when workers decide to go and work in remote locations where they are not accessible, e.g. when participants mentioned going to cafés with no Internet connection to avoid interruptions (see section 4.2.1.2 in Chapter 4), it seems that Tm-N is truly a tool in aid of their productivity. On the other hand, the decision to work in remote locations with no Internet connectivity could also lead them to lose important work opportunities (e.g. being contacted by collaborators or by other people who would need their services), which could hinder their overall productivity or the progress of work, like Claus suggests below:

> Sometimes I close myself and I'm not online anywhere so I don't get distractions, but most of the time I prefer to keep open so I'm available for interaction, which in many cases is work-oriented interaction. Because we are researchers [...] and we want to keep interaction with the world. The moment you stop the interaction with the world it's difficult to progress in research as well I think. (Claus, Interview)

In the quote above Claus tells about his motivations to remain isolated from interruptions at times and the possible consequences of doing so. This exposes a functional paradox (Sørensen 2011) where the nomadic process acts as a tool and a constraint simultaneously; a paradox that people are aware of but usually take for granted (Jordan 2008). As such, it is relevant to pay attention to these nuances in order to better understand Tm-N.

In terms of the blurring of the boundaries between the work and life, this paradox seems to be even intensified for T-Nomads. Although participants often suggest that such a blurring has many advantages like the enhanced control over

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\(^{62}\) Tool is interpreted here as something that is useful for achieving a particular goal or accomplishing a particular task. It could be a piece of equipment, a skill, a strategy or a process (Olson et al. 2002). In the case of Tm-N, it refers to a process.
some aspects of the work and non-work dimensions of their lives, which was previously mentioned, they are conscious of the disadvantages that it may bring, such as the fact that they can be working constantly and they can develop unhealthy lifestyles. Some participants suggested that it can even impinge upon their personal relationships, especially those established with people who do not follow the same model, as Tom exposes in the following quote:

“...on balance I would say it’s very positive, because I can go to do fun things because I know I’m not bound to the office, but on sometimes it can intrude. Especially, hum, for people that don’t have that kind of careers. Like I was dating a woman that is a nurse for a long time and, you know, her job is completely different, it’s completely bound to location. She works at a hospital, and then she is done and she could never understand why I always had my notes bared at my laptop [...] When she is not at work she’s not working. And for me I’m always working, even when I’m not working. (Tom, Interview)"

Taking account of the quote from Tom the blurring of work-life boundaries encompasses a certain trade-off element once some ambivalence becomes noticeable in the participants’ discourse about allowing or avoiding it. The following two sub-sections are dedicated to explore this ambivalence.

6.3.1 The Benefits and Joys of Blurred Boundaries

Throughout the interviews, participants recurrently praised the blurring of work-life boundaries resulting from engaging in doing Tm-N, as observable in the following quote from Marc:

“[Being able to reconcile work and life matters] is probably one of the benefits of the job that we do. It touches on what I said [before]: [...] it gives you flexibility. That is the one aspect of the job that I really like: if I am not teaching [and] something crops up and I want to do something [else], I can do it, you know; and I can make up for that time. So I can work next Sunday, but I can take Tuesday off if need be. And, of course, if that’s life creeping into work, for me that is the best part of the job: that you have that flexibility. To a large extend in this environment you are your own boss. (Marc, Interview)"

Marc emphasises that the possibility of reconciling work-life matters is really the aspect of the academic work that he likes the most. It gives him flexibility; it makes him feel in control of his work-life; it makes him feel that he is to a large extent his own boss. Some other participants, such as Jenny, even stated that they could only see the benefits of it. Therefore, it is pertinent to investigate the reasons for participants to be so sympathetic towards it, especially when there may be disadvantages involved in the blurring of work-life boundaries. On reflection, two
benefits emerged from the empirical data as possible justifications for such appraisal. These benefits and their contribution towards the acceptability of the blurring of the work and non-work lives are discussed in detail in the next two sub-sections.

6.3.1.1 Being Understood

The first benefit identified in the data regarding blurring work-life boundaries is to do with being understood by colleagues. Participants repeatedly noted that blurring the boundaries between work and personal lives allows work colleagues to be aware of what is going on in their personal lives, to understand some of their struggles and to develop sympathy towards them. For instance, Jenny, who clearly states that everybody in her social circle is from work (see section 6.3.1 in this Chapter), appreciates the fact that her colleagues are in fact friends whom she can rely on. As she comments on the lack of work-life boundaries, she explains why she finds so beneficial not to have them:

[...] one thing that's very helpful to me, very healthy about the fact that my friends are at work is that when I have something really eating at me at work, I have a perspective. I can go to a friend who can say, 'listen. That's not as big a deal as you think. Talk to this person, talk to that person and go'. Now I know people have work relationships like that and have their own personal friendships, but I don't. So in that way it's healthy. It's a great stress reduction to be able to ring up [name] and say, 'I've done this horrible thing. How bad is it and what do I need to do?' and get that kind of feedback right away. And also what's nice is that my work friends know what’s going on in my personal life and know enough to be able to say, 'Stop. Go home, you need the break', or to say to other people, 'don't mess with her right now, give her a couple of days'. So that's really useful because they know my personal life that much. (Jenny, Interview)

Jenny suggests that due to the fact that her colleagues are an integral part of her social circle, they can understand her and help her to cope with difficult situations that sometimes arise. As she says, she can easily get advice, or guidance to recover from a possible mistake or get another perspective that can help her to realise that, in fact, she has not done anything wrong. The blurring between the professional and the personal thus provides her with opportunities to successfully manage difficult moments at work and to relieve the stress load. This could be seen as one of the benefits from blurring work-life boundaries, as Aoife expresses below:
I suppose if you meet people in a personal context you know that would turn out to be useful. (laughs) Terrible! ‘Useful’ you know, that could be part of your work life. Then, yes it’s helpful to let things cross over in that way. (Aoife, Interview)

Indeed, participants cherished the fact that the blurring of work-life boundaries would allow people at work to get to know about the things that are going on in their lives which could influence their performances at work, especially when they have a negative impact upon those performances. For instance, Kate, who tries to keep up the boundaries between the work and personal dimensions of her life, mentions that she occasionally crosses those boundaries, although accidentally, when she tries to justify something to someone, e.g. justifying to her students why her performance during a lecture was not as good as she would like it was:

> Well sometimes I find I can accidentally cross boundaries where I actually tell students something about my personal life just because, for instance, my little girl has caught every little bug that’s been going around for the past few months because she recently started a crèche and every single illness that’s in the crèche she comes home with. It means I’ve a lot of extra stress in my life (...). So there have been two occasions when I’ve either come late into class one day or another time I came in, because I hadn’t had sleep for about a week and I had to tell the class, ‘I am really tired. I have had no sleep. I’m feeling sick’. I had to tell them why because I felt they would just think I was disinterested and not motivated. So they probably know more about me than I should have told them, but it was my only way of dealing with my stress at that particular time. (Kate, Interview)

The quotes above provide a starting point to understand why the blurring of work and life is commonly perceived as beneficial. The data suggest that such a blurring provides workers with resources to support them in difficult situations. Other research has addressed how the blurring of work-life boundaries can influence the judgment about the performance and competence of remote members of collaborative teams (Jordan 2008). The data presented here add to this finding by suggesting that it does not only influence the judgment of performances and competences among remote members of distribute teams of workers but also among co-located collaborators.

### 6.3.1.2 Making the Most of Work and Life

The other benefit that the participants constantly refer to is the fact that blurring work and life allows them to make the most of the work and personal dimensions of their lives. For instance, Tom exemplifies how the blurring of work-life
boundaries allows him to keep up with work without giving up enjoying non-work activities.

All right so, here’s an example. Two weeks ago I went to the Cork Jazz Festival, but I also had 4 papers that I needed to review by the Monday after the end of that weekend and because I could take the papers with me to read and submit the reviews from my laptop remotely I could take off the whole weekend and go down there and not worry about the fact that these reviews were due on Monday because I could submit them as, from Cork rather than having to come back here.

Vignette 7. Working whilst attending a Jazz Festival (From Tom’s Interview)

The vignette above suggests that by allowing the blurring of his work-life boundaries, Tom was able to make the most of his weekend in that he could accomplish some work, meet the review deadline that was imposed on him and enjoy the festival. Other situations in which the blurring of work-life boundaries would offer a way to better exploit the work and non-work facets of their lives were, according to the participants, to do with reconciling family and work. Shannon refers to this matter when commenting on situations where she would find interesting to cross work-life boundaries:

If a woman has a chance to work from home, it’s true for a father as well, you have little kids and you need to monitor them but you need to get work done, then when they sleep that’s the good time to do some work. So if you have a home office you can do stuff and again, when you travel, having a 20 minute interval when you catch up with the email and stuff. I think this is great that you can be in one place and keep an eye on your business in another place. (Shannon, Interview)

Elaine expresses a similar opinion, drawing on examples from her own life, explaining how useful it is at times to be able to reconcile work and family matters. Not only that, she also points out that being in contact with collaborators in times that are outside the official working hours can also be very beneficial for productivity within a team:

Well, for instance, if I get a call from the school to say my daughter’s sick and I need to take her home then to know that I can go home and my office can come with me so I can be at home and I can still effectively work and do what’s required of me, then it’s useful [...] It’s useful when you’re working on teams as well and there’s different people performing different tasks, the fact that you can stay in touch with them maybe outside of hours as well so you know what’s been going on when you get in the next day, that’s useful as well. (Elaine, Interview)
Interestingly, similar points were found across other participants’ remarks, pointing towards a pattern in the rationale behind the acceptance of the trade-offs from allowing the work-life blurring (see next section). The data suggest that, in the participants’ opinion, the blurring of work-life boundaries has much to offer them with regard to reconciling and managing different aspects of their lives so that they can make the most of both, in alignment with findings from (Beasley and Lomo-David 2000; Towers et al. 2006; Duxbury and Smart 2011). However, it is questionable whether they are really making the most of them: the following section suggests that this is to some extent dubious.

6.3.2 The Other Side of the Coin: Trade-offs and Acceptance

Although the participants consistently referred to the blurring of work-life boundaries as something beneficial, their comments were often accompanied by ambivalence. For instance, when telling about the episode when he was able to go to a jazz festival and to do some work there, Tom clearly showed awareness of the fact that by doing so he could not comfortably enjoy the festival:

[...] Now, that's a good thing [to go to the festival and be able to accomplish some work], the bad thing about it is I was either attending a concert or reading these damn papers, and there’s not a lot of time to relax, you know. So I could do it, so I got to go to the jazz festival instead of working all weekend here, but at the same time I felt like, either I was listening to music or working not just enjoying the fact that I was in a city that I never visited before. (Tom, Interview)

Indeed the participants frequently acknowledged the existence of disadvantages stemming from the blurring of work-life boundaries. One of the main concerns that they manifested in this regard was that they could be constantly working. Throughout the data collection phase the participants acknowledged that the academic position they hold offers them a “tremendous amount of flexibility and freedom” and consequently they are able to combine holiday and work activities. They mentioned that, on one hand, as they perform their work duties they can travel, get to know different places, and do much more in terms of leisure activities than six weeks of regular allocated vacation would allow them to do. The drawback, on the other hand, is that they never manage to get their six weeks of absolute holidays, because they are able to work during it and they tend to do so. Hence the data suggest that, although the blurring of work
and personal dimensions of life could simultaneously enable productivity and leisure, it could disable them at the same time, as Aoife suggests in the quote below:

...you can check your email on the beach. You can check your email at home at 10 o’clock at night. So that is good obviously, but it’s also bad in that people send you emails on a Sunday and expect you to respond, or you send emails on a Sunday and expect people to respond. So it’s enabling and it’s kind of disabling at the same time. It’s enabling of work but it’s disabling of away time or down time from work. (Aoife, Interview)

So although the blurring of work-life boundaries can be beneficial at times, it may also be prejudicial at other times. This not only happens when work gets into the personal dimension of life but also when the personal dimension of life gets into work, as Claus exposes in the following statement:

What bothers me for example, here is Skype. Here’s my mother’s asking, ‘why are you busy? What is happening?’ So she pops up. If she sees that I’m online she will always send me a message ‘what’s happening?’ and this happen at any time of the day [...]. (Claus, Interview)

Thus, I draw attention to the fact that it is questionable whether it is worth allowing the personal and professional divide to fade away. It is undeniable that there are advantages, as previously discussed, but is the price to be paid for them not too high? In fact the price can become too high sometimes, as will be further discussed in section 6.4. Notwithstanding those situations, participants, however, often defended it. For instance, Tom’s remark presented at the beginning of this section suggests that, by bringing work with him to the festival he was not able to experience the event and his visit in a new city to the extent that he could have. When he was further questioned about this, he provided the following explanation:

So, did I experience the whole jazz festival to the extent that I could have if I hadn’t taken my work with me? Definitely the answer is no, because I had to take some time out and do this work which had nothing to do with the festival. But, on the other hand I wouldn’t have been able to go if I had to make the choice between submitting the reviews or going to the jazz festival...I would have to do the reviews because that was required. So if I couldn’t take that with me I wouldn’t be able to go. (Tom, Interview)

The notion of trade-off is evident here. Like other participants when talking about the pros and cons of allowing the work-life boundaries to be blurred, Tom says that he would have not been able to go to and enjoy at least some of the festival if he had not brought work with him. After all, according to him, the
reviews were work and work demands responsibility. His comment suggests that if he had to choose between doing the reviews or going to the festival, he would have chosen the former. So in that sense, i.e. in terms of being able to attend the festival, the blurring of work-life boundaries was beneficial, whilst it was detrimental to his experience of the festival and of the new city. He was aware of the trade-off and he accepted it. On balance, it was positive, according to him. So there is empirical evidence that trade-off and acceptance are two elements constantly present in the lives of T-Nomads and who can have the boundaries of the work and personal dimensions of their lives dissipated. Understanding the relationships between those two subjects seems to be important to better understand Tm-N and its popularity among workers. The findings presented in the sub-sections above are a start and can inspire researchers to further elaborate on some of the issues herein portrayed.

6.4 DRAWING THE LINE: IS THERE A CHOICE?

As discussed throughout section 6.3, blurring work-life boundaries seems to be ambivalent and paradoxical. The data analysis reveals that, although the participants were inclined to defend blurred boundaries most of the time, they showed some concern about allowing it at the same rate. This opens a discussion about the threshold of acceptance of the trade-offs: when does the price of blurred boundaries start becoming too high? What would be the reasons to make people think of drawing the line? Is there a choice? Is it possible to keep boundaries while it seems that it is becoming increasingly common to cross them? The following sub-sections discuss data related to these questions. Even though definite answers are not provided here given the density and breadth of the questions going beyond the scope of this research, the discussion introduced below is relevant to understand some nuances of Tm-N associated with the blurring of work-life boundaries facilitated by it and does advance the current understanding of issues that may arise in T-Nomads’ lives due to engaging in work in a variety of locations.
6.4.1 Reasons for Drawing the Line

As the fieldwork progressed, it became evident that the participants’ relationship with work-life boundaries was flexible, as Maeve notes:

Well I am quite flexible about all of that [relationship with work-life boundary]. I mean, if my kids call me and there is a problem and I have a lecture, I have absolutely no problem in cancelling [the lecture]: they are my priority. In much the same way, if my family calls me and there is a big issue [I will take care of it]... [But], yes, I cancel things at home [as well]. I suppose it’s pretty unusual that people will contact me at home because I don’t have access to the internet at home. Once I go home in the evenings, I am not going to be reading people’s messages later at night or whatever. But our secretary would know that she can ring me: she has my mobile number and a lot of my students have my mobile number [as well]. So that won’t be a very big deal; nobody would think: ‘oh you can’t contact Maeve at home, because she goes spare or something’. They will say: ‘just ring her she is gonna be easygoing about it; she will be fine, it would be no problem’. It rarely happens but it has happened and, yeah, I don’t really mind. It’s fine. (Maeve, Interview)

Despite their flexibility, it was evident in the empirical data that there was a rationale behind keeping or crossing these boundaries: it would depend on the balance of the trade-offs associated with it. The participants were then asked about what would motivate them to try and draw the line between work and non-work lives. One of the most common reasons that the participants referred to was that of the impact on their health, as in Shannon’s case:

Well, [setting boundaries is good] when you burn yourself out. That’s a danger because if you never stop and if you’re not taking any time off there’s a danger. (Shannon, Interview)

Shannon says that in her opinion many people have to juggle many things at the same time, especially young women who have to manage family duties and work responsibilities. Although she thinks that most of them manage it quite well, she mentions that some people may lose sight of the critical load of effort that they are putting in and consequently they wear themselves out. Indeed participants were conscious that, by allowing the work-life boundaries to blur widely, they could end up with burning themselves out. They recurrently stated that blurred boundaries are interesting as far as they can effectively manage the workload that emerges from it, as Claus explains below:

63 It is worth mentioning that, although sometimes the empirical data collected for this thesis suggest that there are gender issues underlying the blurring of work-life boundaries facilitated by Tm-N, as can be observed in some of the quotes throughout this section, the analysis of these issues is beyond the scope of this research.
All these things, it's all good. It's all good that you're connected here and there, that you keep connected throughout the day so you are available, you are present. It's good as long as you can manage your responses, as long as you know where to set the boundaries and that you can simply know when to say to people, 'no I can't interact now. I am online but I can't interact. I'm busy, don't disturb me.' [...](Claus, Interview)

Participants wanted to stress that, in Philip's words, they were aware of the "creeping increase of the workload and productivity" and pointed out that sometimes they can get stretched in too many directions: so there comes a time when they have to put up a boundary and have to guard their spare time. Elaine points out that if she did not do so, work would take over her life and the blurring of work-life boundaries would thus stop being desirable and would start being detrimental. Philip points out that if workers no longer perceive the blurring of the work and non-work dimensions of their lives as enjoyable, then it is time to start setting up boundaries:

I suppose the glib answer is if you're not enjoying it (...) I, then you won't be productive. You'll end up looking at computer screens and you'll end up looking at algorithms and you'll make progress on them because of the fact that you have no spark, no imagination, no sense of energy. So if there's even the slightest resentment in your mind about being there you might as well just turn off the machine and walk away because unless you are totally open and totally engaged there will be no progress, there will be nothing interesting. (Philip, Interview)

Another reason that emerged from the data analysis for establishing or maintaining work-life boundaries has to do with the fact that, when boundaries disappear, people may try to take advantage of other people. This is observable in the following quote from Kate:

I've always found over the years that whenever I try and relate to my students more on a one to one that it often comes back to haunt me because they use it against me afterwards. It might all be small things and maybe I'm just very sensitive about it or whatever. They don't appreciate the reason why you're telling them these things [referring to personal problems that may impact on productivity, e.g. when her daughter got sick and she had to stay up all night]. You're trying to tell them, 'well I have issues too'. I think they kind of put you on a pedestal but you're trying to relate to them a bit more so you come down to their level, let's say. I know it's not coming down, but you try and relate to them and then they think that you're just a friend and then they start handing you up poor assignments or they start taking you for granted or complaining you're not doing enough when you're actually doing more than you should be doing. So they're the times when I wish I had bigger distance between me and them. (Kate, Interview)

Kate's remark shows how the blurring of work-life boundaries may reflect negatively on her work. By becoming closer to her students, one of the
stakeholders of her work, and disclosing information about her home life she realises that they may start taking her for granted and try to take advantage of her. She is concerned that, by attempting to evolve her work relationship with students, they may interpret it as a movement towards crossing the line and may confuse the professional relationship with a friendship, so that they can hand in poor assignments expecting that she will not fail them. Because of that there are times when she prefers to keep the lines clear.

Last but not least, spending time with family and sustaining relationships were also repeatedly indicated as a motivation to draw the line between work and life, contrasting with some data presented at section 6.2 of this Chapter. Although it was suggested that blurred boundaries would allow people to stay with their family members when they need to, it seems that the quality of the time when both personal and professional activities coexist is not the same, as observable in (Salazar 2001). Because of this, participants indicated that dedicated time to both work and life should be identified. This consciousness is noticeable in Philip’s comment below:

*I try to compartmentalise, I try to not devote too much of my energies in one area. I wouldn’t consider myself as being a monk to the academic lifestyle, moreover I wouldn’t consider myself to be overly dominated by sport or football or whatever; time is always set aside for family. I try to be a conscious chooser in that regard, probably for others to say whether I strike that balance or not. But I am sensitive to the notion of a work-life balance, yes, and I try to strike the right balance, whether I do or not is another question. (laughs)(Philip)*

Aoife also refers to the fact that family issues may push people towards a more compartmentalised approach to the work and non-work dimensions of their lives:

*Well I suppose if you want to have a good organised working life and a good organised non-working life then yes, it would be sensible to try to keep those boundaries clear. But, I suppose at the moment it doesn’t really matter to me because I can work. I don’t have anything that is urgently needed to be done on a Sunday or a Saturday. At the moment it’s not a big issue. Presumably things will change when there’s a baby in the equation. Presumably my work practices will clearly get very organised. Maybe it will make me be more organised. (Aoife, Interview)*

Lucy elaborates on the relevance of keeping work-life separated when trying to maintain a healthy relationship with somebody else. From one of Tom’s quote presented above, it became evident that the blurring of work-life that arises from engaging in Tm-N may impact negatively in relationships, in line with findings from
the literature (Towers et al. 2006; Lal and Dwivedi 2010). Lucy, who has had one of these experiences in the past, wants to avoid it:

...I have personal reasons [to keep work and life separated] in the sense that my partner is not an academic and his work is much more fixed. So when he comes home, he’s not required to do any more work and I try not to do more work myself, so we can talk to each other and maybe do things together [...] I was in another relationship years ago and my former partner was an academic too and we ended up [...] working all the time, always – evenings, Sundays – and I think it was one of the reasons why it didn’t last in the end – because we just didn’t have enough time to talk to each other. So this is a mistake that I don’t want to make again and specially the fact that, you know, my partner’s job is different from mine, I try and respect that. (Lucy, Interview)

A pattern seems to exist in the participants’ relationship with the blurring of work-life boundaries: the participants would try to draw the line between work and non-work dimensions of life when: (1) they want to spend some quality time with their family, (2) they need or want to focus on their work or (3) they protect the themselves from some harm. Otherwise, they would weigh the trade-offs of such a blurring and would allow it if on balance they judge it would be positive.

Understanding this is relevant to comprehend \textit{Tm-N}, because it is related to the driving forces of \textit{Tm-N} presented in Chapter 4, especially \textit{choice} and \textit{opportunity}: depending on the impact that engaging in doing \textit{Tm-N} would bring to their work and life, people may decide not to engage in the process.

### 6.4.2 Attempts, Successes and Failures

Jordan (2008) suggests that people who can potentially engage in work activities at different locations could be grouped in two categories – boundary integrators and boundary keepers. However, while analysing my fieldwork data, this categorisation was challenged, since it seemed that it is not possible to keep work-life boundaries clear anymore. Even Kate, Lucy, and Maeve, who could be considered the participants closest to Jordan's description of a boundary keeper, acknowledged that they cross boundaries occasionally, even though accidentally, and \textit{Tm-N} emerges. Lucy says:

...sometimes [keeping work and life separated] doesn't work out, though, and if I have a deadline or I have to manage to finish something, I have to work and [my partner] ends up talking to himself or watching TV that evening and not really interacting with me very much; and I don’t like that. So I try to keep some separation and I try to keep the evenings free for that reason [...] unless there is some massive deadline, like a big funding
The proposition that keeping work and life totally separated is no longer possible is reinforced by Shannon’s next remark:

*Complete separation? I don’t think it can happen anymore. Things came together naturally because 9-5 was when all the work tools were in the office and you couldn’t take a file out to work at home. But now as we have it, anywhere, anytime I think what we need to look at is how does the person manage; your own healthy lifestyle. And it’s different from person to person.* (Shannon, Interview)

The facilitation of Tm-N by technologies that afford anytime/anywhere access to resources makes it more difficult to achieve a complete separation between work and non-work facets of life – even though it could be questioned whether this complete separation has ever existed in the lives of those who work in knowledge-based positions, considering that knowledge workers could easily accomplish some types of work (e.g. scribbling some ideas for a paper, a piece of code or anything else related to their positions) with as little resources as a pencil and a sheet of paper. That does not mean that *T-Nomads* do not try to keep them separated at times, but even at those times it seems to be difficult to maintain the boundaries between the work and personal dimensions of life, as remarkably discussed by Salazar (2001) and superficially addressed by Cousins and Robey (2005). Tom comments on the matter as well:

*[..] when I go on holidays [it] is quite easy for me to take my work along with me and I have tried experiments where I don’t say “this is my holiday, I’m not gonna do any work”, and it’s actually very stressful to think of all that stuff sitting there and I’m not making any progress on it.* (Tom, Interview)

In Tom’s case, despite his attempts to keep work out of his holidays, he does not succeed to do so because he continues to think of the work that is accumulating, leading to stress and anxiety. Similarly, Kate finds herself crossing the boundaries that she has set out to respect as she gives in to the appeal of checking e-mails late at night to stay on top of things:

*I think technology is part of my problem, because I find myself, especially since I got the Blackberry, I find myself checking my email, maybe late at night, and then if for instance, if a student is having terrible difficulties uploading a project late at night I end up worrying about that student, that that student is under pressure and I end up responding late at night when I should not respond until the day after. So they start eating into my*
boundaries. It’s my fault now. I shouldn’t, I should just pretend I didn’t get the message until the day after but I have a kind of an overriding concern for the welfare of my students so even though it inconveniences me to deal with their issue late at night I do tend to do that and it’s because technology facilitates that. (Kate, Interview)

Kate goes on to explain that although she tries to keep boundaries between the work and non-work aspects of her life clear, she is flexible in that regard and she would always cross boundaries if she is unsure about the negative consequences of not doing so. Also, she clearly associates the blurring of those lines with a technological device that she uses to deal with issues from both spheres of life: the Blackberry. Having one around seems to determine the failure of any attempt to preserve such boundaries. Exactly for this reason, Elaine leaves her Blackberry behind when she goes on holidays. By doing that, she claims that she succeeds in keeping work and life separated while on vacation:

When I go away on holidays I don’t take my Blackberry. I used to for the first two years and you’d get this constant bombardment of work while you were away and it would ruin your holiday because something small that you couldn’t deal with and that you were worried about then stayed with you for the whole holiday. So now I don’t take it with me at all because do you know what, it’s all there when I come back anyway! So you do need to set boundaries and I think it’s only with experience and self-examination when you actually say, ‘why did I feel like this?’, or, ‘why did I behave like that’, that you actually start to realise that you need to set these boundaries otherwise it can take over completely. [...] So you do need to set clear boundaries and the Blackberry has to be the biggest, I think probably the biggest invasion of life in general, or that barrier between work and life. The Blackberry sits somewhere in the middle I think. (Elaine, Interview)

The attempt to establish and keep boundaries up goes beyond technological devices; it spans over the applications and services that people uses on those devices. For instance, in the following Jenny recounts how things got blurred on Facebook despite her attempts:

I had decided to keep [Facebook] a completely just friends because I was putting personal stuff out, but then, people who I felt were friends, but were also just slightly more at the professional side of my life, but still friends invited to be friends on Facebook and I had to make a decision and I looked into what Facebook could do and I started making lists, so when I add a friend they either go onto my good friends list, they go onto my very good friends list, they go on my students list, I even have a professional list. So I have family list – basically I have a tons of lists – and, ahm, when someone adds as a friend I put them on whatever list is or to they fit in best and basically Facebook for me has different permissions (Jenny, Follow-up Interview)

Jenny’s account depicts a trade-off based decision to do with the blurring work-life boundaries in that it illustrates how a medium that she previously decided to
use only for keeping in contact with friends became a medium that congregates both personal and professional contacts. She also mentions that once people who were “more at the professional side” of her life started asking for permission to include her on their friend list, she made a conscious decision of letting them include her to avoid any discomfort that could stem from denying such a thing. However, she was keen to find a means to customise what each group of contacts would see, in order to regain control over the blurring of work and life within that social medium, and with that solution she succeeded in keeping the personal and professional aspects of her life somewhat separated. Other participants, mentioned similar strategies with some of them even trying to keep different IDs in different services and applications, which sometimes would not work:

*I tried that for Skype. It didn’t work for me. So I have them all there. It’s too much effort to keep different IDs for Skype. The same for Facebook. I do have different identities in the virtual world where I work because I want to have my space there where students don’t interact with me. (Claus, Interview)*

In these examples we can see struggles to establish and maintain work-life boundaries at times. However, the data suggest that it is becoming increasingly difficult to do so, given the enhanced accessibility that current technologies provide and the effects that stem from engaging in *Tm-N*. It seems that there is not a choice anymore regarding the blurring of work-life boundaries depending on the situation: at particular moments, even if accidentally, those boundaries are crossed either from the personal or the professional sides of life. These findings draw attention to the fact that engaging in *Tm-N* has been contributing towards a blurred experience of the work and non-work dimensions of life. In addition to that, they also raise concern about how the blurring of work-life boundaries may affect the nomadic process herein discussed. Whilst some suggestions are presented throughout this chapter, it would be important to have different studies focusing on the different issues identified in this research to deepen the understanding on them.
6.5 SUMMARY OF THE CHAPTER AND FINAL REMARKS

In this final data chapter I have made the argument that Tm-N can be seen as a process that goes beyond work. Drawing on empirical data, I have shown how the dynamic and emergent aspects of Tm-N that were explored in the previous two chapters of this thesis may contribute towards the blurring of boundaries between work and non-work dimensions of people’s lives. The data suggest that Tm-N is a process that some people purposively engage with in an attempt to reconcile their professional and personal lives so that they can make the most of both of them.

Despite the fact that Tm-N can be used as a tool to handle different aspects of life, I draw attention to the fact that sometimes it can become a constraint, as when T-Nomads lose opportunities for working from places where they are isolated from other people or activities. Also, I focus on how the total disappearance of work-life boundaries can constrain T-Nomads in achieving a quality experience of the different dimensions of their lives. The blurring of work-life boundaries may have negative impact on T-Nomads’ health or can prevent them to give proper attention to family or work matters. Because of this, it may be useful to draw and keep the separation line sometimes, although it is an open question if this is currently possible.

Notwithstanding these (im)possibilities, I argue that it is relevant to raise and to explore these issues so that a better comprehension of Tm-N can be achieved and a better support for the process can be designed, developed and put into use. Moreover, my data suggests that it is increasingly difficult to understand the “work world’s of academics” outside of how these intersect and combine with wider life practices.

Having concluded my elaboration on the third level of the new perspective, i.e. the level in which Tm-N is seen as integral part of T-Nomads’ work-life, the Conclusion Chapter summarises the major contributions of this thesis and provides my final reflections and remarks.
Throughout this thesis I have explored issues concerning the development of work activities in and across different locations. More specifically, I have investigated practices employed by people to accomplish these activities, and I have identified them as *Tm-N* (Technologically-mediated Nomadity): a dynamic and emergent process associated with an ecology of practices that supports or results in the mobility of workplaces to an assortment of locations from where work is accomplished. As such, *Tm-N*, the role of computer technologies in it and issues that arise in the lives of those who engage in doing it are the central concern of this thesis.

My research is based on an analysis of ethnographically-informed fieldwork data which were collected in academic settings, focusing on how academics
approach their work and non-work dimensions of life and how doing *Tm-N* is a constituent part of it. Three main research questions have guided my investigation. They are:

1) How is nomadicity, or what I term Technologically-mediated Nomadicity (*Tm-N*), evident in the work-life of academics?

2) In what ways do computer technologies affect this process?

3) What issues arise from engaging in *Tm-N*?

By addressing these questions in this study, I set out to make a number of contributions towards existing scholarship on *Tm-N*. Since *Tm-N* is a multidisciplinary topic, researchers from human-centred computing fields of research (e.g. CSCW and HCI), as well as researchers from Ubiquitous Computing, Information Systems and Organisational Studies may be interested in the findings herein presented.

This chapter is intended to summarise the major contributions of this thesis and to present my final remarks and reflections on the findings. In the remainder of the chapter, section 7.1 reviews the main contributions of this study and section 7.2 addresses the secondary contributions that emerged as the research progressed. Section 7.3 briefly addresses the extent to which the findings herein presented can be transferred to other domains and finally, section 7.4 presents some final remarks and points towards issues which could be further investigated by future work on the topic.

### 7.1 Summary of Major Contributions

The three major contributions of this thesis are: (i) the presentation of a new perspective on *Tm-N* and the analysis of issues emerging in the lives of people who engage in it; (ii) the identification of a spectrum of motivational drivers shaping it; and (iii) a discussion of the technological paradoxes involved in using technologies
for doing it. These contributions resulted directly from the research questions underpinning my investigation. The following sub-sections review each of these contributions, linking back to the chapters where they were explored in detail.

### 7.1.1 A New Perspective on Tm-N

The first major contribution of this thesis is the development of existing perspectives on the phenomenon that I identify as Tm-N that is often addressed in the literature as *nomadic work*, or simply as *nomadicity* (Kleinrock 1996; Cousins and Robey 2005; Rossitto 2009). Tm-N tends to be understood as a work condition characterised by the lack of a stable location where work is accomplished (Rossitto 2009), or a work strategy that encompasses the mobilisation of different kinds of resources to distinct locations where temporary workplaces are established and work is carried out (Perry *et al.* 2001; Su and Mark 2008). A third perspective on the subject associates it with a technological infrastructure that allows people to access the informational and technological resources needed to accomplish their work on a anytime/anywhere basis (Kleinrock 1996). And, finally, a fourth perspective analyses the blurring of work-life boundaries in the lives of people who engage in working in different sites such as those traditionally devoted to social and family activities, e.g. home (Salazar 2001; Meerwarth *et al.* 2008a).

I argue that Tm-N should not be seen as a matter to do exclusively with work, but instead, as the way through which people whose jobs involve or allow for flexible work arrangements approach the work and non-work dimensions of their lives. Empirical evidence underpinning this argument are presented in Chapter 6, where I discuss how Tm-N goes beyond the notion of work and illustrate how work can easily be brought into the non-work dimension of life as people go on to work at locations that used to be traditionally devoted to non-work activities (e.g. private homes, cafés, etc), and conversely, how family and personal matters are brought into the work dimension of life as workers deal with those matters at locations that were traditionally dedicated to work (e.g. when people bring their children to the office due to lack of childcare, or when they disclose information on difficult personal situations that may be impacting on the quality of their work in an attempt to justify their performance).
Furthermore, I provide empirical evidence that \textit{Tm-N} is a dynamic and emergent process that arises from \textit{T-Nomads'} engagement in an ecology of practices, which has to do with the mobility of the workplace to different locations and with the accomplishment of work at those locations.

The emergent and dynamic aspects of the process refer respectively to the facts that (1) the accomplishment of work in different locations gradually becomes observable as people engage in different practices for the mobility of the workplace and (2) \textit{Tm-N} constantly gets reconfigured from the interplay between: (a) different motivations underlying the moment; (b) the ways in which people mobilise their work resources and themselves to new locations; (c) the infrastructure offered by the new location; and (d) the ways which people make use of the available infrastructure together with the resources they have brought to the site to set up their temporary workplaces.

I suggest that, while the practices that compose the \textit{Tm-N} ecology can be grouped in different categories, as those observed by Su and Mark (2008) – i.e. assemblage of actants, the search for resources at the new locations and integration with others either at a present location or in remote sites, etc. – these practices exist together as in an ecology and come into play organically whilst \textit{Tm-N} unfolds. Findings supporting this interpretation are discussed in Chapter 5 above.

\subsection*{7.1.2 The Spectrum of Motivational Forces Driving \textit{Tm-N}}

In terms of the second major contribution of my research, I argue that \textit{Tm-N} is driven by different motivational forces that exist as part of a spectrum. This proposal contrasts with the literature which usually associates the reasons for people to engage in \textit{Tm-N} either with \textit{choice} – usually the focus of the technological-centred and work-life boundary-centred literature, which connects \textit{Tm-N} with the notion of anytime/anywhere access to informational and technological resources necessary to accomplish work in several locations – and \textit{obligation} – commonly addressed in studies framed within the practice-centred or the place-centred perspective to \textit{Tm-N} identified during the literature review, which suggest that the main reason for people to get involved in \textit{Tm-N} is to meet
face-to-face or to use specific resources (e.g. pieces of equipment) that are available only at a given location.

My findings, on the other hand, suggest that there is a spectrum of motivational forces that leads people to mobilise work resources and accomplish work in different locations. According to them, this spectrum ranges from choice, going through opportunity to obligation, i.e. it respectively encompasses situations in which people, with many possible combinations of them: (1) may choose to move to a new location in order to work; (2) take the opportunity to engage with work in the location they are as some resources such as time, inspiration, Internet connection or other people are conveniently made available; and (3) must move to a new location to work because the resources they need can only be found there or because the organisational policies require them to do so. The findings related to this second contribution are detailed in Chapter 4.

The two contributions I have presented so far are inherently related. In fact, they complement each other as portrayed in Figure 2 (see page 47). As can be observed throughout this thesis, I propose that $Tm-N$ has three levels of abstraction with the higher levels including the elements of the lower levels.

The first level of abstraction is to do with the motivation that leads to the physical mobility to a new location. I argue that at the core of the process there lies the spectrum of motivational forces driving $Tm-N$. The second level of abstraction includes the ecology of practices, which is related to three key elements for the accomplishment of work in a range of sites: (1) mobility, which refers to the physical movement to new sites where work will be accomplished; (2) workplace tokens, which refers to all technological and informational resources (e.g. artefacts and services) that can be carried to or accessed from a new site and used to establish a temporary workplace for the accomplishment of work from there; and (3) location, which refers to the geographical position and the environment where work is carried out. Finally, the third level refers to work and life contexts within which $Tm-N$ unfolds.

I propose that, as $Tm-N$ is developed the boundaries between work and non-work may become (more) blurred. In Chapter 6 I show how this blurring sometimes happens in the lives of the participants and how they feel about it. According to these findings, it seems that people handle different aspects of their
work and non-work lives through Tm-N. The recurrent discourse from participants is that Tm-N allows them to make the most of their work and lives: for instance, they mention that they may enjoy a personal trip and at the same time catch up with work so that they do not accumulate work on their return. Also, participants say that they can take care of family issues (like minding a sick child) without abandoning work. Despite the positive discourse, I argue that the blurring of work and non-work lives should be treated with caution. In Chapter 6 I explicate the stress caused by the constant blurring of work and non-work life boundaries and I question whether Tm-N is really a tool or a constraint for people to deal with distinct elements of their work and non-work lives. Notwithstanding my concern, the data analysed for this thesis suggests that it is becoming progressively more difficult to keep the boundaries between work and non-work dimensions of life clear, because it is becoming increasingly easier to engage in work in locations traditionally devoted to family or social activities and in family or social matters in locations habitually dedicated to work, as discussed in Chapter 6.

7.1.3 A Discussion on Technological Paradoxes associated with Tm-N

Last but not least in the list of major contributions of this thesis, in Chapter 5 I provide a detailed discussion of technological paradoxes that may be associated with the use of computer technologies for Tm-N. As different authors mention (e.g. Perry et al. 2001; Meerwarth 2008; Sørensen 2011), technologies are often seen as the great enablers of Tm-N. In actual fact, the discourse of “the great enabler” came out strongly from the empirical data I collected as well.

The first reaction of the participants when they were asked about the meditational role of computer technologies in Tm-N was to praise the technological apparatus that they benefit from. Participants frequently referred to the possibility to easily assembling and mobilising work resource to different locations and evoked a discourse that associates computer technologies with working at place and times of their choice and enhancing their productivity. However, by probing their answers, I collected several stories of circumstances in which technologies failed them.

Also, participants frequently referred to the complexities that technologies can add to Tm-N and to how technologies may enable bad work practices. Thus, I draw
attention to the fact that although technologies frequently work as a help, it may also act as a hindrance to T-Nomads, arguing that grasping this technological paradox is important to better understand Tm-N, its nuances and impacts upon the lives of those who engage in doing it.

7.2 OTHER CONTRIBUTIONS

In addition to the three major contributions reviewed on section 7.1, two secondary contributions were achieved in this research. By secondary contribution I mean that they were not the main focus of my research questions, but emerged from the research process. The two secondary contributions of this work are: (a) the proposal of the terms Tm-N and T-Nomads to differentiate the subject of my study from nomadism and to avoid associating it directly to a work condition; (b) and the development of a typology to organise studies on Tm-N. Each of these contributions is briefly addressed below.

7.2.1 The Terms Tm-N and T-Nomads

As discussed in the introductory chapter of this thesis, researchers from different fields of study within Computer Science, like Ubiquitous Computing, HCI and CSCW, usually use the term nomadicity or nomadic work to refer to the subject matter investigated in this research (i.e. the accomplishment of work in and across different locations). While the term nomadicity is inspirational and insightful given that the approach employed in the development of work activities on the move is to some extent similar to the one employed by traditional nomads (Su and Mark 2008), I have contrasted this work with my findings to develop what I think is a more nuanced account of the lives of those taking part in my study.

As noted in Chapter 6, participants drew attention to the fact that their approach to work, although similar in some ways to the approach used by traditional nomads, is motivated by different reasons and encompasses different tools and practices: therefore I was confronted with developing an appropriate term to account for this. Furthermore, throughout my study I observed a tendency amongst participants and other people with whom I had the opportunity to discuss my research topic to associate the term nomadicity with nomadism. Last but not
least, Su and Mark (2008) note that “there are some important characteristics between pastoralist nomads and NWs [nomadic workers] that make detailed comparisons unsuitable” (p. 314).

Hence, I argue that pastoral nomadism and the approach to work and non-work lives that I have investigated should be clearly differentiated. In order to avoid the time-dependencies that the terms “modern” or “contemporary” would attribute to the terms “modern nomadicity” and “contemporary nomadicity” and, in an attempt to prevent confusion with the notion of migrations associated term “neo-nomadicity” used within the Mobilities paradigm (e.g. D’Andrea 2006), I decided to adopt the label technologically-mediated nomadicity, which is abbreviated throughout the thesis as Tm-N. In this way, I attempted to make clear that my subject of study is not nomadism, but rather a “type” of nomadism that does not require the mobility of the complete household to the new locations of work, that involves staying in certain sites for short periods of time and that is inherently mediated by computer-technologies.

Moreover, I propose the use of the term T-Nomads as an alternative to the term nomadic workers which is commonly found in the literature, since I argue that Tm-N is a matter that goes beyond work and I elaborate and provide evidence to support this perspective on Chapter 6.

7.2.2 A Typology to Group Research Studies on Tm-N

While exploring different bodies of literature on the topic, I developed a typology to group these studies by focus and suggest that there are basically four framing perspectives in the literature: the technology-centred, practice-centred, the place-centred and the work-life boundary-centred perspectives. By proposing this typology, I am contributing to the clarification of the field of research that I am advancing. I am aware that there is a lot of overlap among these frames: however, I argue that the studies that I analysed usually focused primarily on a particular element thus pushing others to the background.

From my perspective, studies framed within the technology-centred perspective usually emphasise development and evaluation of technologies that allow for anytime/anywhere access to informational and technological resources. Researchers who adopt this perspective (e.g. Lamming et al. 2000; Sawhney and
Schmandt 2000; Kleinrock 2001; Lyytinen and Yoo 2002b) start from the premise that technologies are the major enablers of Tm-N and, therefore, better technological support must be developed in order to enhance it. Even though I agree that technologies are an important part of Tm-N (if I did not, I would not use such a label to refer to my subject of study), I argue that there is much more to be taken into account for understanding Tm-N. In fact, as many technology designer and developers are aware, the development of technology should be based on user needs (Sharp et al. 2006; Benyon 2010). Also, the development of useful technologies should take into consideration the context where such technologies will be used and how users will appropriate them (Sharp et al. 2006).

As for the studies framed within the practice-centred approach, they commonly focus on the practices involved in doing Tm-N. Technologies are an important part of these studies: nonetheless, they are not the final product of the study. Researchers who use this frame (e.g. Perry et al. 2001; Su and Mark 2008) pay attention, not only to the formal work activities that people develop and for which they get paid, but also to the activities they perform to mobilise their work activities to new locations. In particular, these researchers investigate and try to understand the strategies that people use when they have to engage in work at different locations. The downsides of these studies are that (1) they do not take account of the role of different locations in Tm-N, even though they refer to the difficulties involved in the development of work in different and sometimes unfamiliar locations; and (2) they approach Tm-N from the perspective of a work strategy, somehow neglecting how the process is integral part of the work and life of people who engage in it. I argue that taking account of these two aspects is very important in order to comprehend nuances of Tm-N.

In regard to studies from the place-centred approach address how place is a practical concern to T-Nomads and how it can shape work at the same time that work can shape it (Brown and O’Hara 2003). Researchers who make use of this strategy (Ciolfi et al. 2005; Bogdan et al. 2006; Bartolucci 2007; Rossitto 2009) do not lose sight of the relevance of technologies for the accomplishment of Tm-N, neither do they neglect the practices that workers engage in. However, they still consider Tm-N as a matter to do exclusively with work.
Finally, studies framed within the work-life boundary approach (Salazar 2001; Gluesing 2008; Goldmacher 2008; Jordan 2008; Meerwarth 2008) elaborate on how Tm-N is about T-Nomads’ work-life, address issues on technology mediation, but lack a discussion of the different motivational forces that lead people to move to different locations.

The above critiques of existing literature were led by the empirical evidence from fieldwork conducted for this research, and led to the development of a new perspective on Tm-N, which I argue needs to be rethought in order to take account of all the elements that it encompasses (e.g. technology, work practice, place, and work-life) as equally important.

7.3 ON THE TRANSFERABILITY OF THE FINDINGS

As discussed in Chapter 3, since this is a qualitative research using a small sample of informants, generalisations are not possible (Creswell 2007; Bryman 2008). However, I am confident that the findings yielding from the ethnographically-informed fieldwork reported in this thesis can to some extent be transferred to other domains similar to the one investigated in here – i.e. academic settings.

In particular, the three-level perspective on Tm-N detailed in the thesis and diagrammatically illustrated in Figure 2 is abstract and is not tied up to an specific domain, but to the notion of Tm-N that is to do with the accomplishment of work at a variety of locations using for that assorted computer technologies to mobilise the workplace. Therefore, the mobility of the workplace to distinct locations and the accomplishment of work tasks from there are constituent elements of the notion of Tm-N addressed in this thesis. Any domain that involves people moving to distinct locations, bringing with them resources to set out temporary workplaces and accomplishing work from those locations can be instantiated in that abstraction: they will move to different locations due to a reason, will use an ecology of practices to mobilise work resources to that location and will have Tm-N unfolding in the context of their work-life.

Having said that, it is worth drawing attention to the fact that, although the Tm-N model presented in this thesis is highly transferrable to other domains, the findings concerning how participants of my cohort engage in Tm-N, may not be
transferrable to other domains. For instance, depending on the flexibility and fluidity of the work activities of the domain in question, parts of the spectrum of motivational forces may not be “active”. Also, the blurring of work-life boundaries may not be as intense as it is for academics. An example are the telecommunication engineers studied by Wiberg and Ljungberg (2001): they can be considered instances of *T-Nomads* according to the interpretation I use for this thesis for: (i) they move to different locations to fix problems in the telecommunication network infrastructure; (ii) they bring with them the tools that they will use to fix the problem; and (iii) they accomplish work in different locations. Although frequently involved in *Tm-N*, these workers do not have a choice to decide where to engage in work; they must go were the problem is. Also, the blurring of work-life is not observed in their lives for they do not bring work home, or at least there is no study suggesting that they do so.

Nonetheless, the findings of this thesis in terms of how the informants of its fieldwork engage in *Tm-N* can be potentially transferred to any knowledge based domain, like the domain of *creative freelancers* who would have a similar degree of flexibility in terms of where and when they may get involved with their work tasks as the academics targeted in this investigation.

### 7.4 Final Remarks

Having reviewed the contributions of this thesis, I feel that I have succeeded in answering the research questions that I set out to investigate at the beginning of the study. With regard to the first research question (i.e. “*How is nomadicty, or what I term Technologically-mediated Nomadicty (Tm-N), evident in the work-life of academics?*”), I have provided empirical evidence that allows me to propose that engaging in *Tm-N* defines an integral part of academics’ work-life, with *Tm-N* unfolding as a dynamic process comprised of an ecology of practices triggered by different motivational forces that are part of a spectrum. From my perspective, it seems that, individuals want to have control over their time and space and practising *Tm-N* offer them opportunities to do so. Therefore, people are gradually taking more responsibility for their movements and consequently for the paradoxical but sometimes desired blurring that is happening between the work
and non-work dimensions of their lives. Being able to decide where and when to work seems to give them a positive feeling of control over their work-life and to support them to care about their careers without giving up enjoying the social aspects of their lives (see the discussion in Chapter 6). So they engage in Tm-N not only because some of their work activities must be accomplished from different locations due to the availability of specific resources or because a superior tells them to do so, but also because they want to, because some places may offer them other resources that may make their work more comfortable or enjoyable, or even because they have the opportunities to conveniently engage with work at that location and moment.

In terms of the second research question (i.e. "In what ways do computer technologies affect this process?")}, I have presented data suggesting that Tm-N involves a dialogue between human bodies and technologies that work together towards the accomplishment of work in and across several locations. I argue that technologies play a very important role in affording Tm-N by facilitating the mobility of the workplace to different locations, thus allowing T-Nomads to bring with them a large amount of informational and technological resources as well as to access other resources (either technological and informational or human) that they need to successfully accomplish a task. Notwithstanding the fundamental importance of technologies to Tm-N, I argue throughout this work that, in order to better understand the mediational role they are playing, it is important to take account of the technological paradoxes that may be involved in the use of computer technologies, and of the dialogue that happens between technologies and human bodies as Tm-N unfolds.

Finally, concerning the final research question (i.e. "What issues arise from engaging in Tm-N?"), I have presented data illustrating that, as a process, Tm-N allows for the blurring of the distinctions between the work and non-work dimensions of the lives of academics and that computer technologies are an important element in this process. I have presented evidence of how work and non-work lives are becoming more and more intermingled and, despite the possible negative effects of this, people accept it and even enjoy it (see Chapter 6). The evidence that I present suggests that work and non-work matters should be seen as an extension of each other.
I am aware that there are limitations in this research, especially because I decided in favour of a holistic account of Tm-N. As Webster (2006) puts it, in a holistic research the details of the specifics are somehow overlooked in favour of the search for broad understanding of the relationships between the different components of a phenomenon. For instance, I am aware that the dialogue between actants that I identified during this research needs to be further investigated. Future work might benefit from investigating it by formally adopting an Actor-Network Theory (Latour 2007) approach as a guiding framework for the data collection process and orientation for data analysis.

Besides further research on the dialogue between actants, some other issues could be explored in the future taking account the questions raised whilst pursuing the research. For instance, I identified through this study that people are more open to start collaborations with people that they have never physically met before in contrast with what some CSCW researchers propose (Olson and Olson 2000). A hypothesis for that is the fact that nowadays, with vast amounts of information on the web, people may use on-line media to identify potential collaborators and may use some indicators from these media to build the trust relationship and the common ground necessary to effectively collaborate. Also, the fact that increasing numbers of people are using online social networking systems (e.g. Facebook, LinkedIn, etc) may be impacting on the acceptability of remote interactions. However, these issues are outside the scope of this research and should be carefully explored by dedicated studies.

Finally, a further area for exploration is the impact of remote interactions on Tm-N. As briefly discussed in Chapter 4, remote interactions may allow for a more stationary approach to work, since most of the resources to accomplish work would be available through technologies that afford for anytime/anywhere access. Nevertheless, I argue that anytime/anywhere access may disable at the same time that it may enable Tm-N: one can stay at home and do everything from there, or go and work a few hours in a café, then move to a library, then to a park, then back home. However, these issues also extend beyond the scope of my present research.

In summary, I argue that the data I present in this thesis and the analysis I perform contribute to advancing the understanding on the topic of the
mobilisation of work and life and that, as with any good research, it opens up new doors to explore emergent themes and issues.


Technologically-mediated Nomadcity in Academic Settings


References


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References


Technologically–mediated Nomadicity in Academic Settings


References


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APPENDIX I – ETHICS COMMITTEE APPLICATION DOCUMENTS
*** PLEASE FORWARD TO ANYONE WHO COULD BE INTERESTED ***

Dear colleague,

I am a postgraduate student at the Interaction Design Centre of the University of Limerick researching how computer technologies, especially information and communication technologies (ICTs), are supporting lecturers to develop their work activities across the several locations where they may take place (in the office, in a lecture hall, in a hotel room, in a train, at home and so forth).

I am interested in understanding how lecturers have been integrating new technologies into their work practices in order to cope with what I call the nomadic aspect of their work. I am also interested in how such integration is influencing the way they conduct their work activities.

If you are a lecturer working at the University of Limerick or at the Limerick Institute of Technology and would like to take part of this study, please get in contact with me by replying to this e-mail and I will forward detailed information about the format of the study and the nature of your participation, so that you can decide if you agree or not to take part of it.

Thank you for the time spent to read this message and I hope to hear from you.

With best wishes,
Fabiano
Dear ______________________.

Thank you for contacting me regarding my study on nomadic work practices amongst third level lecturers at UL and LIT. As I said before, I am investigating how computer technologies are supporting lecturers to develop their work activities across several locations.

If you volunteer to take part in this research, you will be asked to participate in:

- Two one-to-one interviews at a time and place convenient to you
- One shadowing session at a time and place convenient to you (this means that I would spend about 4 hours with you during a working day that suits you) and
- A diary keeping exercise (which would mean keeping a diary of your work activities over a period of one day when you are off campus for work, e.g. at a conference.).

Your participation will take place between November 2010 and April 2011. One interview will be conducted before the shadowing session and one after it has taken place. Interviews will be audio recorded and transcribed for data analysis. Each of them will last for no more than an hour and a half (90 min).

During the **interviews** you will be asked to tell about:

- The work activities that you commonly develop;
- The places where they are developed;
- The ways computer technologies are helping you when it comes to develop them across those different locations; and
- The factors that dictates where an activity should be developed.

The **shadowing session will last around half a day** (approximately 4 hours). In the session, I will **follow you wherever you allow** me as you develop your work activities. **I will be as unobtrusive as possible** so that you can perform your work as you are used to and I will **record the observation in field notes. I may also ask your permission to take pictures** of some places and situations that can be useful to illustrate or to shed light on the study.
Finally, you will be asked to fill in a short diary telling about the work activities you engage in during a day that you are abroad for a conference, for instance. You may also be invited to take pictures of the locations and technological devices you use in that day.

All data collected will be used for the purpose of the PhD research in question and for publications resulting from it. Your identity will be concealed and will not be disclosed in any case. Fictional names will be used when needed.

If you volunteer to participate in this study, you may choose not to answer any of the questions put to you, including during the interviews, and you may not allow me to follow you to a specific location or to take pictures of a location or situation during the shadowing exercise. Further, you may choose to withdraw from the study at any time without giving a reason.

After the end of the study, you will have the opportunity to check the data collected and you may ask for any amendments you wish. The data will then be stored in the UL Library Archive and the Irish Qualitative Data Archive at NUI Maynooth.

If you have any queries regarding the study, or would you like additional information to assist you in reaching a decision about participation, please do not hesitate to contact me, Fabiano Pinatti, at fabiano.pinatti@ul.ie. You can also contact my supervisors, Dr. Luigina Ciolfi and Dr. Breda Gray at luigina.ciolfi@ul.ie and breda.gray@ul.ie respectively. We would be happy to answer any queries you may have.

If you are happy to consent to take part of this research, please contact me so that we can schedule the first interview. By then you will be asked to sign in a consent form like the one attached to this message, which details your rights as a participant. Although the study doesn’t benefit you directly, it does offer you the opportunity to contribute to the education of a new researcher and to assist in the development of his research skills. As such, I would like to thank you for taking the time to consider participating in this project.

Yours sincerely,

Fabiano Pinatti, PhD Student
ISSP Government of Ireland Scholar
Interaction Design Centre, ER1-002
Dept. of Comp. Science & Inf. Systems
University of Limerick, Ireland
fabiano.pinatti@ul.ie
PARTICIPANT INFORMED CONSENT FORM

Consent Section:
I, the undersigned, declare that I am willing to take part in research for the project entitled “Practices of Technologically-mediated Nomadicty in the Knowledge Economy”.

I declare that:

- I am aged 18 years or older.
- I have been fully briefed on the nature of this study and my role in it and I have been given the opportunity to ask questions before agreeing to participate.
- The nature of my participation has been explained to me and I have full knowledge of how the information collected will be used.
- I am also aware that my participation in this study may be recorded (video/audio) and I agree to this. However, should I feel uncomfortable at any time I can request that the recording equipment be switched off. I am entitled to copies of all recordings made and am fully informed as to what will happen to these recordings once the study is completed.
- I fully understand that there is no obligation on me to participate in this study.
- I fully understand that I am free to withdraw my participation at any time without having to explain or give a reason.
- I am also entitled to full confidentiality in terms of my participation and personal details.
- I have had sufficient time to read and consider this consent form and the associated information letter.
- I have had the opportunity to ask any questions related to this study, to receive satisfactory answers to my questions, and any additional details I wanted.

Participant Signature: ____________________________

Date: ____________________________
I wish to check over all the data recorded during the study to ensure that the researcher has satisfactorily keep my identity concealed and has take out any non-essential information. (If you wish to avail of this opportunity, the data will be sent to you before the 30th of April 2011, and you will have fifteen days to review it and, if you are satisfied, to sign the statement below.)

I have checked the data collected from my participation and I am satisfied that my identity has been adequately concealed.

Participant Signature: ____________________________
Date: ____________________________
This is going to be a semi-structured interview so the following questions are only a few examples to illustrate the topics that will be covered.

Background Info

Examples of questions would be:

- Would you tell me about how you became an academic?
- Concerning your work as an academic, could you tell me what work activities you have to perform?
- From those activities, which ones would you say that are bonded to specific places and which ones you may develop wherever you like?
- Could you tell me where you usually develop your work activities?
- When you have a choice, what would be your reasons for choosing a place rather than another to work?
- When you have to go to a specific place to work, which kinds of resources do you usually need to carry out your work activities?

Technological Support

Examples of questions would be:

- Could you tell me how technology may help you to bring or to get access to those resources?
- What computer technologies do you use in your everyday work/life?
• Taking account of the fact that sometimes you are working in the office, other times in a lecture hall, yet other times at home or abroad, how those technologies support you in getting things done across all those locations?

Changes in Mobility Patterns

An example of question would be:

• In which ways do you think computer technologies allowed you to be more or less mobile than you used to be in the past?

Collaborative work

Examples of question would be:

• In your view, what role does mobility play in working with other people?

• For you, how important face-to-face interactions are to get collaborative work done?

• What reasons would influence you in making a choice between going to a place to develop a work activity or doing it remotely by using a piece of technology?

Work/Life Boundaries

Examples of questions would be:

• How would you say that computer technologies are changing the boundaries between work and personal lives?

• Can you give examples of when it is desirable to keep those boundaries?

• Can you give examples of when it is desirable to cross those boundaries?

• How is your relation with those boundaries?

• Do you find any of these boundaries annoying or obstructive in your work or life?
Dear Participant,

Thank you for taking the time to fill in this diary. It will be a very important instrument for the researcher to get a sense of the kind of work activities you engage in when you are travelling abroad, the places where they may get done and the technological apparatus that may accompany and support you in successfully perform them.

**PLEASE, FILL IN THE DIARY FOLLOWING THE GUIDELINES BELOW:**

1) Date your diary;
2) Name the city and the country where you are at;
3) Indicate the main purpose of the travel – if you travelled to a conference, but the main purpose of the trip was to present a paper in that conference, please, mark the correspondent option;
4) Indicate the time of the day you filled the diary in;
5) Indicate the place where you filled the diary in;
6) Tell about
   a. the work activities you engaged in during the day, e.g. editing slides, writing an article, delivering an oral presentation, and so forth;
   b. the places where they were performed, e.g. lecture/conference hall, laboratory, hotel room, etc;
   c. the artefacts you needed to conduct you activity, e.g. articles, books, etc;
   d. the computer technologies you used for accomplish your task – laptops, projectors, mobile/smart phones, internet connection, and pieces of software – like Microsoft Word, Microsoft PowerPoint -, etc.
   e. your reasons for conducting the activity at that location, e.g. availability of time, presence of co-workers, looming deadline, and so forth;
   f. how your work day would be different if you did not have the technologies you had available.

Thank you once again for your participation in this study!
1) Date (DD/MM/YYYY):
____________________________________________________________________

2) Location (City/Country):
____________________________________________________________________

3) Main purpose of the trip:
   a. Attend conference/workshop/etc
   b. Present at a conference/workshop/etc
   c. Visit to another research centre
   d. Other (Please, specify): _______________________________________

4) Time of the day when the diary was filled in:
____________________________________________________________________

5) Place where the diary was filled in:
____________________________________________________________________

6) Please, use the following space to tell about your day:
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
A full anonymisation was done for the dataset included in this Appendix, although the raw data used for analysis was not fully anonymised.
INTERVIEW WITH SHANNON

Transcript

January 13, 2011 – 2.30PM to 4.30PM

F: First of all, many thanks for accepting to take part of this study, I really, really appreciate it. I’m going to start this interview asking you about how you became an academic, so, can you tell me; how did you become a lecturer?

S: Well, it’s a little bit complicated because as a secondary school student I hated the idea of teaching and I said this is something that will never ever do in my whole life because I felt it was very difficult to be exposed in front of a class and to be the one who has to have all the answers and I became a software developer so I trained, my undergrad program was called Cybernetics and we learn software development methods and languages, all kind of stuff, but also economics and after graduation I wanted to go into research, but it wasn’t possible in the context of [my home country], so I went to work to a computer centre and during my final years in the computer centre I was asked to teach programming language courses basically, but also business analysis and stuff like this because the centre had a hard time to sell software and there was a high request for courses, so people needed to be trained and we were able to give them a certificate and so on so I started teaching and then a university was created in town and I was asked to do tutorials and labs for two groups of students and I quite enjoyed because it was better to work with students than with unemployed people who were actually reluctant to learn anything else and, you know, conservative. So the following year another university opened its doors in the city and they asked me to teach part time and I got involved in teaching groups of students and also lecturing for new and final students, teaching them basically about automation as far back as 1991, so office automation was kind of a new idea in [my home country] at the time, so I went on from there and for three years I taught in parallel and worked, I started enjoying preparing lectures and coming up with interesting topics and I was working with mature students to develop ours seminar topics that were of interest for that period and that place and then in 1994 they offered me a position full-time with the university. I was very reluctant to be honest
because I loved software development but because family circumstances, so two little kids and a father-in-law who had had a heart attack I accepted it and little by little I became the IT support for the university, international office and everything else because it was a new university and it was developing, but also teaching a lot both mature and full-time student. So the mature ones were to heavy courses on Saturdays and Sundays. And I got back to research because I needed to get I PhD to get a permanent job in there, so that was a delight and it was quite difficult it wasn’t easy because I wasn’t in the town where my mother was and I had to travel 400 Km and, yeah, see my Professor a few times a year, but it was exciting, an exciting time. I’m glad I did that step.

F: So you’re from [a continental Europe country], how did you end up here in Limerick?

S: Well, that’s a long story. I already mentioned that I wanted to do research ever since I graduated, I was involved in a research project in my third and fourth years and I kept an eye on opportunities but it was never possible and from [my home country] it was very difficult to travel to conferences or getting involved in anything, because there was no funding to research. So you were either in a research institute or, as an academic, you could acquire projects but I was working for a private young university that had no funds so there wasn’t any perspective; and I applied for funding to ERCIM, the European Research Consortium on Informatics and Mathematics, back in 2001 and I was in a waiting list and in 2002 I applied again and I got a phone call after 3 weeks from a research institute in [another continental Europe country], telling me they wanted to work with me and would I and there was an institute in [city] that would like to work with me. So this was based on the CV, a list of publications and two papers that you have to have on-line. It was very basic, they were looking for people who had right profile and it was a Post-doctoral fellowship. So I said yes and in September 2003 I started working [city] in [foreign country], after nine months I had to move to [that city], so this is the grant, it gives you 18 months in two institutes so you transfer knowledge from one to the other and put them in touch. So I moved to [city], I kept contact with the [them], they offered me a job at some point and I wanted to go back, but them the circumstances changed and when that finished I was read to turn back to [my home country], but my
university didn’t get the accreditation so my job wasn’t there anymore and the situation, I really, once I got to work on research I didn’t want to go back to do, you know, programming job, or teaching courses in, I don’t know, adult education institution. So I looked for another post-doc and I found two positions, that’s funny, I used Google and I put in social software, so that was my idea, a post-doc, and the first two positions were Limerick, University of Limerick, [name of the research group], Professor [name], and the other one was the [name of institute] in [another city], [in the same country I worked before], and both positions had been published more than nine months before and I thought they were gone but I wrote to both professors I got answer from both and they asked me to send them a CV and a list of publications and I was invited to Limerick first and it went very quick, so I came here on the fourteenth of February 2005, I saw the place, I fell in love with the open plan, they had just moved here that month and I spoke to a few people and I understood it is a much more open environment that people are discussing their research projects, because at the time I was working at [city] and the work load was so high that you only had time to discuss the project and you move to another project and to another project. So I was offered a job, I accepted it and after three months, because it took a while until I got a work permit and a Visa and everything, I came to work here, so this is how I landed in Limerick.

F: So you’ve been here for 6 years now?

S: Almost and I worked on the [name] project from 2005 - 2008. Then I got a teaching job 2008 - 2009, and then from November 2009 I got a permanent job as a lecturer.

F: I see you’ve lived in many different places. I would like to ask you, how would you describe yourself regarding your lifestyle?

S: If I am a nomad? (laughs) To be honest I’m really a conservative person and I like to be in one place. It was a challenge. It’s difficult to adapt to a new country, a new language. Although English was permanently used as writing language and publication language, I had to work in [foreign language] and I had to work in [another foreign language]. Now, what daunted me was that my [foreign languages] weren’t good enough to go to talk to customers. I was the back end. I could do the job
and I could understand both languages very well, but in order to talk to a customer and be able to convince him to buy into your project, it’s another story. Probably if I would have lived there long enough, but what worried me was, I was losing my English and this is what you publish in. And then there’s all kinds of little groups that have their own culture. For example, in [the first foreign country I previously worked] the big professor was god and you had to cite him in every paper, and you had to respect his work as if it was holy and you couldn’t criticise anything. Then, in [the second one], they were great followers of French knowledge management which was something completely new for me and I said, ‘but how do you position yourself in the international community?’ They didn’t care. They went through French as a medium and it was a completely different scientific community. Not closed because there were Canadian French people attending conferences and everything and publishing, but it was weird. At the time I said ‘this is all nice but I want to go to an English speaking country. It would make the divorce in my mind and the struggle to find the words much easier for me if I would work to my mother language and English only and not having another’. So being a nomad, it was interesting at times because in [the first foreign country I worked in] - that was the first place I went to live in for a longer time - I was supported. So they had an international secretary who found me accommodation, took me there from the train station, and then went around with me to the relevant authorities to get all the documents I needed and explained everything to me. Now, I was lucky because that Institute had 150 members out of which 90 were foreigners, so there was a lot of coming and going. So they were well versed in dealing with foreigners. When I moved to [the second country] I was left to my own devices and I lived for three weeks in a hostel looking for accommodation every afternoon and it was really tough. Then having to buy furniture because the studio had nothing in it and having to leave after 9 months and having to break the contract. It wasn’t easy. But a funny thing is, when I was living in a hostel the University from [my home country] sent me to an EU project meeting in [an eastern European country] because they thought it was easier for me to get there. So I travelled by train to [city] in [the country I was] and I was supposed to fly from there and I was told I can’t fly because [the country I was going to] had joined the EU and I, as a non-EU country woman, I would have had to apply for a Visa. I didn’t have a mobile phone, I was resisting mobile phones. So I tried to call the partner [in the
country I was going to], it was a Saturday, and tell her: ‘do something! Bring me there because I have no money to stay here’. So that was from an airport fixed phone, then I went into town and I saw a cheap phone shop. I bought my first mobile phone and I called her and she said, ‘where are you? We spoke to the Minister of Foreign Affairs himself and you’re allowed to fly in and there’s a flight at 5 o’clock in the afternoon’. So that was my first time when I needed to have a mobile phone and it saved my life.

**F:** If I may ask you, why were you resisting?

**S:** Well the whole story about radiation and keeping that thing next to your ear and I had internet where ever I went in the office and at home, in both places – [countries I previously lived in] - so I didn’t see the need. Until then. But, when you start travelling like this yeah, you need a mobile phone. And now I kind of feel lost if I’m not connected. When I go into a mobile phone shop and they ask me, ‘what do you want a phone like?’, ‘can I connect to internet?’. I’m not interested in photo taking, give me a WAP enabled phone.

**F:** You define yourself somehow as nomad, how is this lifestyle related to your work style? Are they interconnected?

**S:** Well I’d say there’s a lot here. When I started working here the project was about global software development and we needed industry partners. So we went around the country to look for companies that were involved in global software development and [name] wanted us to do a field study for an extended period of time. So we went to [a person] in [Irish city] and we went to [another person] in [another Irish city] and we went to [a third person] in [a third Irish city] and many other places. And that was a question: ‘how are we going to proceed because the expenses of living in another city while doing field studies?’. My final field site was [in a company] in Dublin and they’re not in Dublin they’re out in [place]. So that’s another hour from the city by bus. I’ve done more than probably 100 full days in the field and that meant travelling to Dublin, and staying for four or five days. But it was interesting and I had to cope with problems in UL because I was already involved in teaching, while working from a desk in [the company] and vice versa. I’ve also done ethnographic observation online. I was following a team so the days I wasn’t there I
was online looking at the mailing lists and team room and seeing what was going on and what important meetings and what minutes appeared online. So I was trying to catch up all the time. And I was on the internal instant messaging with [the company] so I was able to work from here and ask questions. So that was really, really good.

F: I see some of your work activities doing research, being in there at [company's name]... As a lecturer, which types of work activities do you have to perform?

[Interruption – SOMEONE WALK IN TO ASK HER ABOUT A PROJECT]

F: So back to work activities...

S: So there’s obviously teaching. So contact hours and I do lectures and I do tutorials and I do labs but then there’s preparation, which involves a lot of other things, not only sitting at your computer and looking for stuff, or going to the library and looking for books, but also, one of the modules I teach is called [name of the module] and the aim is to familiarise fourth year students with the problems of the labour market and with the problems that companies are dealing with. So I’m trying to identify and invite speakers from the industry, and for this purpose and for the purpose of promoting the course, I’m going to all events around the country: open source developer meet ups, bar camps, base camps, entrepreneurship conferences, digital media conferences. I keep an eye on everything that’s going on and I try to see if it’s worth it going. So it paid off because I can speak about the course to people and find people who are interested in hosting coop students, but I can also identify possible speakers and invite them, and then there’s the [research community] chapter we have here in Limerick, and we’re looking for speakers and contacts for that as well, and now I’m involved in the [another community] which is a hacker space that started in Limerick. So we’re looking for a space in the city centre to host our activities and we’re in contact with similar groups in [three Irish cities]. Yeah, I travel a lot around the country and I’m also an evaluator for EU projects so I get to travel to [a fourth continental European country] quite a bit and that’s another challenge because things happen here while I’m there for a week, and I have to deal with them.
F: From those activities, which ones would you consider bound to particular locations?

S: The lecturing and the labs of course, because the rest of it can happen anywhere.

F: For the flexible activities, what would be your reasons to choose to engage in them in a location rather than in another?

S: It depends. In the summer I went to visit a research group in [continental Europe country] and I spent a month there. I thought it’s going to be a stable placement. I got a nice little apartment and I got an office so I thought it would be stable. And then I got to travel a lot because I was invited to give talks and visit other places. So in the end it wasn’t easy at all. So what makes me choose a place over another? Let’s think about the internet connection first of all. So if I prepare a lesson would I do it from home or would I come here? The internet connection at home sucks. It’s very slow. If I need to look up any videos, as I had an assessment, which was a big part of this year’s work, because I tend to give students little assessments worth a few points here and a few points there, that I get to watch and read a lot. Probably I’m shooting myself in the foot but this is it. So I don’t have a proper internet connection to allow me to watch videos at home. So I would come here. Sometimes I cross the road from home to the [hotel in front of my place] because they have good Wi-Fi and if I need to do work and my internet connection is down, I go to the hotel, I have a coffee and I do my work from there. That happens pretty often. It was the same in [the aforementioned country]. I had good internet access from the [university I was visiting] and my access from home was on a dongle and the traffic was limited. So I had to trade this off.

F: In your opinion, what makes bound activities bound to specific locations?

S: Scheduling reasons. Although, I’ve threatened my students to take them out on a field trip it never happened, until now. One idea was to take them to [camp event] and make them talk to people about their portfolio and stuff. Instead, we got a video link with [the event] and it was interesting because an entrepreneur in Dublin was presenting his eagle new venture on that very day to the guys in the [hotel where the
event was going on] and we were the third participant in this and the students interacted quite a bit with them. Another idea that arose in an open space we organised with first years asking them to come up with ideas for new methods of teaching and interacting. They told me, ‘why don’t you put your lectures on YouTube so that we could watch them any time?’ and I said ‘okay, if I get to sit at home and record the lectures’, and that would be a sort of asynchronous. We also had the idea of organising a lecture in which I would sit here in the [laboratory] and they would be in the lecture hall and I could speak from here. In the end the situation was such that we didn’t put that into practice, but it would be possible. Yes, I think we should evolve our methods because the opportunities we have nowadays do not require necessarily to be in the same place at the same time. People can catch up later and can interact asynchronously. So I think this is something that we need to think more about in the future.

F: All right, now, talking about your use of technologies? How would you describe yourself in this regard? Are you a tech savvy?

S: Yeah I’m a very early adopter of everything. If I hear about a new tool I have to try it out. Sometimes I adopt it and sometimes it’s just a fad and it goes away. But, yeah, during the years I’ve tried a lot of things. I’ve tried teaching through blogs and Wikis and Twitter and all kind of methods. I’ve tried Learning Management systems for different purposes so it’s kind of, yeah I would consider myself a sort of early adopter. I got myself an Android and probably I would have got it much earlier if I wouldn’t have thought so much about iPhone or Android? iPhone or Android? And it went on and on until before my visit to [that continental European country] this summer, I decided for the Android because of what I hear from colleagues about iPhone development. So the whole idea is to get into development and be able to work with students who develop for the Android. The iPhone development community is pretty closed and you have to pass all kind of barriers in order to get involved. Well, it’s much easier with the Android. So that’s the whole idea. I still have my old phone because I have a difficulty. For me the Android is my PDA so I go online on the mobile network or on Wi-Fi, I access my pictures, my videos, my everything, but for phone reasons I keep my old phone.
**F:** What would be your reasons for integrating a new piece of technology into your work-life?

**S:** User-friendliness, so usability reasons. Then, I guess, I’m pretty conservative from one point of view: I don’t like the frequent UI changes of Facebook, for example. I have a lot of work to do and what annoys me the most is a change in UI when I need to do the work very, very fast, and I have to look around, ‘where is that button?’ If the product is user-friendly then I would stick to it and I wouldn’t change it easy if I’m not convinced there’s something better out there. The other reason I would adopt something is networking. So I really liked Delicious because it allowed you to share your bookmarks with a community and look up someone else’s bookmarks and I migrated to Diigo about three weeks ago and I have difficulties in finding my network mates there. Some of them migrated, some of them didn’t. I’m still waiting for Delicious to make up their minds. So what is Yahoo going to do with the service: sell it to someone else who’s going to bring in a new business model or kill it altogether? So yeah, I want to have access to what other people do and that’s why Flicker and Delicious and Twitter are very, very useful. Now I have a problem with Facebook. I like it because all your friends are there and there’s a lot of interaction and there’s a lot happening, but I have a big problem with the fact that you’re content disappears and it’s hidden, while if you put your pictures on Flicker, and if you pay for a premium account, your pictures are there as long as you want to keep them. You’re not in control. You’re getting a free service and it’s funny but you can’t rely on Facebook for anything. It’s immediate interaction and that’s it. For archival purposes you have to have something else.

**F:** Do you think that the integration of new technologies into your work-life has anything to do with the nomadic aspect of it?

**S:** Well take Delicious. You find something interesting, you bookmark it, and you have access to it from anywhere. So you’re at a public computer, you can access your Delicious bookmarks, for example, in a lecture hall. So when I go lecturing I don’t usually carry my laptop with me. I use the desktop that’s there and I can find almost anything because they’re all hosted in the cloud. I went to the [hacker space] meeting the other day and I was talking to someone and he said, ‘will you tell me where I can
find that?’ and I went on Delicious on my phone, and I was able to find the bookmark and I was able to email it to him on the spot with my phone. That’s something I really, really cherish, that you can work from anywhere. You can even borrow someone else’s device and go online and show them something. I work with a group in [a]public library. They’re ladies in their 50s and 60s who are there to learn about how to use a computer through the programme [I am running], and they are sometimes interested in booking flights or stuff like this. So I can show them bookmarks I have and I can show them interesting things I’ve seen yesterday regarding travelling to the, I don’t know, Canary Islands or things like this.

F: Aren’t you concerned about security issues?

S: I’d say I’m mostly concerned about what Facebook is doing with our data because you don’t know what’s underneath and they prove to have a bad reputation in selling data to all kind of other companies. In the beginning I used to be concerned about Gmail because a lot of my stuff is in Gmail and someone hacked into my account, probably the password was too easy, and they sent emails to all the people on my contact list about buying Mac products from China. It was like I was recommending those products. So that was scary because it reaches all your contacts and you don’t know what else they could get from the inbox. I’m going with my real name and photo and everything to most of the websites. There’s some I wouldn’t trust, for example, the Facebook apps that require access to this and that. I think a lot of people do not realise what’s going on. Periodically I look at the list of apps I’m sharing information with and I delete stuff from there because they seem innocent, you’re taking a test and you’re sharing the results with your friends. It’s dodgy. It’s really dodgy and really more and more I don’t like the model. So hopefully there will be something open source and distributed, not all hosted in the same place. I was also concerned about the syndication of different services when Yahoo bought Delicious and Google bought YouTube and they asked me to bring my accounts together, I kind of don’t like this. I want to be able to keep different profiles in different places. Again, Facebook brings them all together because work friends want to be there with you and family and school friends and it’s kind of dodgy again. So the privacy model is not. Otherwise I’m not very. I hear a lot of people who wouldn’t put their birthdates online because people might hack into their account and use their credit cards. I
think that's an exaggeration. You need to be careful but then we recently had one guy who was involved [in the hacker space I participate in], he lied to Facebook regarding his birthdate. He put something random and then when he tried to access his Facebook account from France, he went back to France where he's coming from, and they asked him for a confirmation and that was his birthday and he couldn't remember what he put in and they blocked his account and he couldn't get in anymore. So he had to create a second account. So sometimes you are shooting yourself in the foot, you know, by trying to be more private than. I kind of use different IDs, different names for different networks, depending on what I want to do there. I'm interested in alternative therapies so I wouldn't use the same nickname for my digital media work and that.

F: So we're talking about using technologies and this kind of stuff, could you tell me what types of technologies you use in your everyday life?

S: The things I couldn't live without? I have a desktop here which I have two because I'm in the process of migrating. So the desktop at work, the laptop at home, and I have three of them, and again there's always a favourite one.

F: Three?

S: The old, old one, the old one and the new shiny Mac. So I use them from time to time for different purposes. I thought of giving one away but then I'm not sure I want to. Then I have the Android phone and that would be it I'd say. I have a flip camera, I have a digital camera, I have a mini-projector, I have a lot of things but I find myself using the Android more and more for almost everything because it works fine, for pictures, for videos, for saving them, for showing it to people. Yeah it does a lot of things, external hard drive of course. Now, applications, what do I use frequently? Google applications, Gmail - that's my lifesaver, and I find myself using Google quite a lot. I use Google Reader for my RSS feeds. I use Twitter and Facebook. Twitter is mostly professional reasons. I don't have much, unless I send direct messages to people and I have both friends and work colleagues and contacts all over the world on Twitter. Facebook, again it's kind of mixed. It would be more personal. It also contains some things about my personal life but a lot is about technologies and work and conferences and so on. I have a blog and I'm struggling to go back to blogging.
because I realised I share a lot on Facebook and those items are lost and it’s a pity. But, what I use every day, probably at least 20 times, was Delicious and now Diigo. So to read later. If I find something interesting sometimes I don’t go back to read them but I know they are there if I prepare a lecture, or if I want to share a bookmark with someone. You tube? Of course we all watch stuff but nowadays we mostly watch it on Facebook because it’s kind of easy. Instant Messenger and Skype? Mainly with friends and family and sometimes for professional reasons. Google Apps, like the documents, spreadsheets whatever, Google Calendar, this is what I use and now I have it on my Android and it’s very easy. I always disliked, I don’t know for what reason, the Microsoft Outlook Calendar and the whole synchronisation thing I never used it, but now I am and I have reminders all over the place in my Google Calendar. So other than this, I guess...

F: Would you be able to tell which technologies you use for which kind of activities?

S: They are mixed. We can’t seem to keep things totally separate. So yes I would have a blog for alternative therapies and a blog for professional reasons and it’s pretty much the same tool. They are different places online but I use the same tool. I tend to use the tools I’m familiar with and I tend to promote them. I’m telling students, ‘if you go the Wordpress way I’m able to help but of course you can choose whatever you want’.

F: For instance, when it comes to preparing and delivering lectures, what technologies would you use?

S: First of all most of my modules are on a Wiki so I use the [online platform] a lot to communicate with the students. They get, at the beginning of the semester, a URL. I shorten it, I give it to them and then they know that for whatever announcement, or assignment, or whatever, they go there and they find all the information. I try to use the content management system on the [department] website in parallel but I only put in links to the [platform I use], and papers to download, mostly. So the [the online platform] would be the place to go and I update that almost two times a week for every module. There are dates, there are venues there, there are assignments, there is feedback on assignments, this kind of stuff. Of course I use email because you can’t
Appendix II – Sample of Fieldwork Data Set

bail out of email, students use it for the communication and I sometimes send an email to the whole class: ‘please do this’ or, ‘make sure you show up because we have a guest speaker’. But again, I refer them back to the [platform] for the bio of the speaker or something like this. Other than that I use, of course, the bookmarking to look for things I would use for the lecture and in our field it’s very difficult to keep the same thing from one year to another. So you have to change the whole thing every year: I use last year’s lecture as a guideline, what do I want to talk about, most of the time the examples have to be changed and sometimes whole topics go off the window because it’s not interesting anymore, there’s something else happening. So the focus shifts and the case studies. I use PowerPoint because the students want to stick to PowerPoint. At some time, I think three years ago, there was a very interesting addition to the media Wiki that you could have a Wiki page and if you put subtitles in the proper places you could turn it into a slide show and that was great. But, now I tend to have slides and a [type of web] page for the same thing because the students like it and because you can easily add pictures and you have one idea at a time on the page.

F: Would the technological apparatus that you use for research differ from the one you use for lecturing in any way?

S: I don’t use [the aforementioned platform] for research, for example, although we used to keep up to date [one of these platforms] for the [research group I’m part of] so that people could find out about events and workshops we were running. I don’t think it’s maintained anymore, so there’s very little happening there. For research purposes, there is CiteULike which I would use pretty often because I’m looking at what other people read. I tried to get in to Mandalay and Academia.edu for self-promotion reasons but I don’t seem to find the time and to be honest I’m not so concerned with promoting myself. I’m more concerned about finding material for different purposes. A lot of libraries now, for example the ACM library, would like to have bios of authors and you can sign in and claim your own profile and add information about yourself, but I haven’t seen many people doing it. So for my research Google Scholar is important but I also use it for preparing my teaching. I read a lot of blogs, both for teaching, so the RSS reader is important and sometimes bookmarks to specific posts because following other experts in the field helps you
keep up to date. And some of them, I had them on Facebook and they connected their blogs to notes on Facebook and this way it’s all in one place. Other things I would use for research? Google Docs a lot. Working with people collaboratively on a paper it would be Google Docs. Funding applications again Google Docs.

F: Cool! That gives me a sense of the tools you use for each activity. Now, let me ask you, when you move from a location to another to engage in work, what types of resources do you take with you?

S: Papers. I save PDFs and I have a folder for this research I’m trying to do, and then to read that. I would love to have access to Google where ever I am because there’s one word I can’t understand or a person, or a name that might bring me more information, I want to know what else that person wrote about. So again, that’s very useful. Yeah, anything else? Yeah, I want to be able to go online. I don’t, well when I’m done with the research and I have all my ideas down, then I would switch off, cut myself off from the world and write. And still there are moments when I feel the need of googling this and that.

F: What types of resources do you expect to find in those locations?

S: Internet access, Wi-Fi so that I can do it from wherever.

F: Anything else?

S: Well you know I’m looking at these co-working initiatives, Business incubators. I think they’re very interesting. The way people in Berlin work by going to a café and having wireless there and working. Being in a place where other creative people work is so beneficial. You do your work for an hour or so and then you have a coffee together and you start talking about little things but from one thing you get to another and you get useful information and a new track to explore and that’s priceless. You get this a little bit with following blogs and following Twitter accounts, but being face-to-face with people and what I find most useful for my research is when I get to speak about a specific idea. I can explain it to someone else and it becomes clearer to me. I work better in a group. I work better with other people than on my own. So interaction... Human interaction... Sometimes with experts in my field, sometimes with people from different fields.
F: Now, changing topics, I would like to talk a little bit about collaborative work. My first question is about the role of face-to-face interactions. In your opinion, are they essential for getting collaborative work done?

S: No I don’t think so. So I’ll give you the example of my colleague in [a foreign country], [colleague’s name]. We met at a conference in 2007 and he listened to my presentation and I listened to his and we realised we are coming from, not the same background, because he’s an anthropologist, but we shared the same values and the same readings and we said we would like to work together. So we started working on things. He was doing his research in [his country] and I was doing mine, and then suddenly we started collaborating and it worked like wonders. Sometimes you meet people you can work very well with and exchange ideas and it was all done through Skype and Google Docs and we wrote several papers together. In the summer I went to [his country] with the hope that we’re going to achieve something big because we were going to be in the same place. We only met three times because the best collaboration time was when he was at home and I was at home and we could focus on the conversation between us and coming up with ideas in improving your paper. On one of the times we organised a joint workshop but the preparation of that workshop was done online. So I’m going to share with you something a guy in [a company in which I did some research] told me, a guy [from a continental European country]. He started working with a team while he was a student in [his mother country], and then the university told them they should form a company because there were too many customers coming in and the University was annoyed. So together with their professor they formed a company and that company was bought by [the company I was investigating] and when they bought them, [the company] wanted them moved to the States. So they took them all with families, cars, dogs, everything and moved them to the States and gave them an office and they worked together for another three years in the States and they were speaking [their language] amongst themselves, and every now and again a marketing person or research person was coming in to learn from them and service them. After three years the team was disbanded, no he decided to move first. He went back to [his mother country]. And for another year he worked with the same team and he said it was seamless. There was no difference. He knew who the people were, he knew their
potential, he knew what he can ask for and it worked wonders. Then the team was disbanded and he, now a senior, was given a team of young developers in Dublin. A nightmare because he didn’t know them, he didn’t know what to expect, English wasn’t his first language, he was used to work through [his mother language]. All the time he was complaining about this guy not doing what I’m telling him. And he told me, this is the secret of collaboration: it gets better as you go on and when you get to know the people. It doesn’t matter what way you get to know them, but after a year or two you know each other’s potential and it works at distance but it’s not something that would happen, well sometimes you click like it happened to me and [name] but sometimes it takes a while until you get to know the other person. For our research in software development teams we suggested that if they can’t bring people together in the same location when they start working on a project, at least give them 10 hours over the first month to socialise online. Organise fun events, you know, on the chat. It doesn’t have to be high tech virtual worlds, but give them time to talk about the food they cook and their families and their dogs and whatever concerns them and get them to bond.

F: So what you’re saying is that even if people don’t physically meet they still can share values?

S: Yeah. And I’ve seen this happen. When people work on pet projects and something they’re really interested in and they have time to share not only technical details but also their beliefs, and the other person resonates with their beliefs, or gets to respect them, so they have different beliefs but, ‘this is your point of view and I respect it’. That’s why blogging internally is so important because some people make a point and share their, you know, I read a blog post about being frustrated about the technology and that woman said, ‘the support is not doing anything for me and I have two sick kids at home and I need to get my job done and go home!’ Then someone else explained that, ‘here is support who deal with this and that and it’s good and I have a sick child at home as well’. It’s human understanding of the values. If you try to completely disconnect work from your other life it’s bad and I don’t think it works. People in different continents have different values and you have to try and understand them.
F: In your view, are social networks impacting on the acceptability of mediated interaction for collaborative work in any ways?

S: Yes I think they do, but at the moment, now Facebook is a mixed pot and people are still experimenting and we were told that you can keep your friends and colleagues on separate lists but nobody does it because it’s kind of cumbersome. A lot of companies have the idea that, okay, we need an internal social network and [that company I mentioned before] has not one but several internal social networks and it’s good because it has a critical mass. There are like 500,000 people on it. Not all of them, because some of them are in manufacturing and in sales and they don’t go online to socialise necessarily. I think there will be a tipping point, you know? We are not there yet. Facebook does a good job accustoming us to what could happen. So I see a lot of, for example a contact of mine, a lady who works for the digital media lab in Sweden. I met her at the conference in 2004 and never since but she’s a friend of friends I meet pretty often and now she’s finishing her PhD thesis and sent it to binding and you know the whole thing, and she’s tired and she’s down and sometimes she shares interesting links and I follow them, but I don’t remember interacting with her until now when she kind of needed a bit of support and I felt like telling her ‘okay you’re not alone. This happened to other people’. Sometimes it’s people I met at conferences once. There’s a guy who’s in Australia now, a British guy who’s in Australia visiting some family there, and he’s sharing information about the disaster there. So it’s kind of strange how, I’m sort of running a sort of survey on Facebook because I’m a bit wary about people who follow me but never say anything. Are they stalking me? Are they using this information in any way, or they never sign in? They’re never looking? And yesterday I was reading about the algorithm Facebook uses. Did you know that you don’t see everything your friends post? They select them and according to some values, if you’re not commenting very often on each other’s profiles and posts they wouldn’t show you this person. I felt at some point that someone was very quiet or not on Facebook at all and when I clicked on someone’s profile there was a lot there but I wasn’t seeing it, and I never hid it, it was Facebook that was filtering stuff. And now I’m reading about it. So it’s kind of odd. It’s not the proper awareness mechanism we would imply it would be. So I think there will be a move towards social networks for business reasons but I don’t think having different
social networks, well I think what’ll end up being is a thing where you have your own profile and your own data hosted on a server of your choice and then you can interconnect to different networks and show them different faces or facets of yourself.

**F:** Have you ever started a collaborative project with people that you've only met on Facebook?

**S:** I’m not on Facebook with anyone I haven’t met in person. I avoid that, except [a person] who’s a friend of [a friend of mine] and so on. So you get friends of friends who are in the same field that you follow, who started following me, otherwise I wouldn’t, I’m pretty, if I don’t know the person. So sometimes I’ve got [my mother country] scientists trying to befriend me on Facebook. LinkedIn is for this, I’m sorry. You get to know where I travel, you get to know what I eat. I don’t think it’s appropriate. I don’t know if you’re familiar with the term ambient intimacy? It was mentioned in the video I sent you yesterday. There’s an Australian user experience designer living in London, Liza Reichel and she came up with this term ambient intimacy. She said, I met this guy at a conference and then he sent me requests to connect on several social networks, Flicker being amongst them, and I said, ‘yes okay. I’m not sharing anything. If I want to share something in private with the family that’s it’. So two days after this the guy brought a new lamp and put it in his bedroom and he took a photograph of the lamp in the bedroom. And she had this realisation: ‘oh my god. I’m in this guy’s bedroom! I never thought I’m going to get so familiar with him to have a peek into this bedroom. But because we’re connected I’m looking into his bedroom and his dirty socks are lying there and I’m judging him and next time I’m going to meet him I’m going to think about it. So it’s really weird. The borders are really blurred.

**F:** How about LinkedIn?

**S:** You’re interested in have I started ever collaboration with someone I didn’t know. To be honest I don’t think so. I would try to recruit people through LinkedIn, I’ve done this when I was looking for people for the project, you know PhD students, and I kind of looked through LinkedIn. It happens if I get a recommendation from someone. So for example, while I was in [the country I visited this summer], I was told about a lot of [nationals of that country] who could be interested in a project and I
liaised with them but, out of the blue, what works? Because you kind of pointed me in the wrong direction I would start a collaboration based on a blog. If someone writes a blog and they share information that I’m interested and I share the same values, I would start commenting and would get in touch with that person. A good example is [one of my work colleague’s] sister. I know [name]. She used to be a master’s student in [an institute of an Irish city] and she was writing a blog about semantic and stuff like this when I moved here and she was one of the first bloggers I met. I wrote to her several times. So I commented on her blog, we started writing to each other, then I went to [the city] and visited [the institute] and she came here and visited [my laboratory]. So yes, blogs because they’re the work and the profile of the person.

F: Interesting, I hadn’t thought of blogs...

S: Early in 2003 when I moved abroad and I was looking for like-minded people I followed a lot, and I have people I have never met on Facebook that I met via blogs and we worked together online via blogs. So there’s an online facilitator who at the time was giving a seminar every year for three months, and I paid for that myself in 2006, going online and getting trained for online facilitation. She is brilliant. She has such a wonderful personality and I am friends with many of the people who sat that course because we had so much interaction online. So that’s one way.

F: Cool, now, could you tell me what would be your reasons to choose between going to a specific place and meet face-to-face and collaborating via mediated interactions?

S: So not working from anywhere, but working from a specific place?

F: Yeah, for instance, you go there to meet in person. So what would be your reasons?

S: Well related to your former question, you asked me if I initiated any collaboration and I was thinking about other researchers but to be honest [interruption] I had the curiosity to Google, I ran outsourcing [to my home country] at one point, so I was finishing the study [at that company I told you] and I was looking for another field site, and I found this company in Dublin with two managing directors, one with an Irish name and one with a name [typical in my country], and I
wrote to them. I got on Skype with [name], he answered, I got on Skype, we discussed the matter and they had a location in Dublin on the website. So he told me this woman [from my country] was working for him in a multinational company. At some point they decided to go and form their own company. They started the company together because they couldn’t employ enough people in Ireland, she went to [our country] and acquired a company [in their] and they developed it from there. So their development division is in [our mother country] and she travels back and forth and she travels to customers. I got her Skype and I started talking but then I wanted to meet the guy because [the Professor in our group] told us there’s nothing better than interviewing a person in their office, in their working environment, seeing the phones ringing, and seeing the software they interact with. So I pushed the poor guy and I said, ‘I want to meet you and I want to meet you in your office’. He suggested a coffee shop in Dublin. I said, ‘no I’d like to meet you in your office’. He didn’t saw where and we met in a coffee shop but then he took me to the place and when we got to the address he said, ‘now I’m going to have to explain you we have a location, a physical address, but what’s here it’s an apartment where we’re hosting people who are coming from [our country], and other places, and I do work in the living room but that’s not my normal working place. So do you still want to come upstairs?’ and I said yes. It was a nice gentleman so there wasn’t any problem. We sat down and I interviewed him for three hours and because of that environment and not the cafe he told me many more details, but I realised I pushed it over the normal boundaries and it was my fault. I didn’t ask, I assumed that was the office address and it can happen. So otherwise, going to see things, for example the [laboratories] in [one of the continental European countries I mentioned before]. I saw pictures online, I heard a lot of stories about it and I didn’t only want to meet the manager, I also wanted to see the place. And the place was one room of this size and a few machines. I had seen them online but I wanted to be there because we were thinking of replicating that. So I wanted to see the people who are coming in. It’s something you can’t get from far away.
F: So how would you compare these face-to-face interactions with mediated interactions?

S: Well in mediated interactions, now I’m going to tell you what I think about the research. So doing research you have to compare. With this guy there wasn’t a there. He was working from home and I could have done it entirely online and it’s the case with an online community, an Open Source community, that never gets together, or if they get together it’s for a conference and you can go there, but otherwise nothing compares to knowing where the place is, what transport means are to that place, [company name] was for this the bosses leaving you there on a Friday afternoon and not coming anymore. It’s an extreme situation and those developers, young people who would like to socialise on a Friday evening, are confronted with this. Can’t find out because they wouldn’t tell you this in an interview. Then the physical layout of the cubicles and how they can talk over the wall or not. This is something it wouldn’t occur to you to ask in an interview, and they wouldn’t tell you because they don’t think it’s important. And then visiting a [foreign] site and making assumptions based on the whole awareness that you have in an open plan and you get to know all the faces because they have name tags over the cubicle. There are 100 people. Sooner or later you bump into them in the canteen and they have a name badge. You get to know everyone. In [that country] they live behind closed doors, two people in an office and there’s a maze of corridors. I introduced a guy to another and they had been working together for three years and they’d never met face to face, in the same location, on the same project. See? So there’s a difference and I think whenever face to face is possible, whenever a physical contact is possible it should happen because it gives you a lot more information and online interaction becomes so much better. But yeah, working at a distance is definitely possible.

F: So let’s just go back to that technological mediation issue. You told me about the devices that you have, the two desktops you have, you have three laptops, and you also have the mobile. I was kind of thinking. How do you keep track of everything? Have you ever had problems to find...

S: Where are things? Yeah I do have problems. I tend to use a lot Gmail for storing stuff or if I think something is going to go through different versions I would do a
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Google Doc to put it there. Things that do not change over time I have an external CD
disc drive and this is what I carry around and I try to duplicate. It has
synchronisation thing on it but I never trusted it. I want to be in control. I don’t know
what could be over-written. So I’m kind of reluctant. Now, my mission is, I have this
wonderful iMac on my desk and it has a lot of storage space, so my, I will call it New
Year’s resolution, or my plan for 2011, is to sort out my archives and what won’t
change to put it on another external hard drive and what’s ongoing to have it
organised. Also my whole archive of pictures. I realised that after 2003 I got my first
digital camera. I have so many pictures. I never deleted one even the bad ones. Now
the time comes to deal with these archives because what do you do with them? The
good ones I put them online, but I avoid putting online pictures of me and my family
because that’s something publicly shared. Those are things I would keep for myself so
how do I deal with this? I need to sort out my archives. Then there’s the thing about
my work. Moving from country to country I had a desktop and a laptop in every
country. Of course when you leave you save everything and I have DVDs and CDs at
home, but sometimes you need to refer back to your own work and I’m going to give
you the example of one of my friends [abroad], a South Korean post doc, she went and
did her undergraduate studies in Korea. Moved to Minnesota. Did the PhD and moved
to [a continental Europe country] for a Postdoc. And one evening she was writing a
journal paper and she was ready to send it in and needed a citation of her own
previous work and she couldn’t find the article. So she had a lot of CDs with her:
‘where is it, where is it, what’s the title? I wrote it but what’s the title?’ and then she
had to pay 25 dollars to get her own article from the IEEE library so that she could
cite herself. This is the extreme situation. Whatever you published is online but
sometimes you have to pay for it if you’re not well organised. Archives are a problem.
I’m still, I think I have everything but it’s going to take me a while to sort it out.

**F:** In your opinion, how are computer technologies supporting you to bring or
get access to what you need to get work done in different locations?

**S:** Well everything I have in the cloud so bookmarks, Delicious, the thing I would
use mostly and then Diigo, I have to learn this, and Google Docs and the Gmail. These
would be the things and I can access them from anywhere and I find myself googling
a lot. I know the resources are online. I know three keywords the change of finding it
in the first 30 seconds is huge. I manage to do it most of the times so I don’t even bother going to my own bookmarks many times. When I speak to a student and I want to give them this and that: Google. And I’m wondering if one day Google won’t be there.

F: How do you think computer technologies are impacting people’s mobility patterns?

S: Well, having more easy to use devices is impacting because, for example, I wouldn’t travel on the bus and open my laptop although I have it with me. I find it kind of complicated. It takes so many seconds to get started then the battery and blah blah. So I’m reading books on this because the battery lasts long enough for a day travelling and you can store PDFs and it’s so easy and you can look into stuff and you can email people and you can have your To Do list and your calendar and everything with you. So as things become smaller and easier to access, I think we’re more inclined to work on the road. I remember before having it I used to print out two or three papers to read them but now I’m avoiding killing trees. I think we get better devices for mobility as we go along and we don’t need, you can have a dongle and an internet connection anywhere. You have a mobile connection on this so it’s not an issue. The only issue is power sockets. If I could have some juice with me in a bottle because in airports if I go into a new airport and I have two hours waiting time, the first thing I’m looking for is a power socket. I went to Budapest airport and I knew exactly where it was. I went and bought food and drink and sat down and opened my laptop and when I went under the table the socket was broken.

F: Oh!

S: It was there but it was broken. And I hated it and I had it planned what to do. You know when you’re short of time and you want to do things? I’d say that’s the next thing. To have a battery with you of this size that you can use for recharging any device.

F: So would you see you as more or less mobile then you used to be in the past?

S: Without any doubt more mobile. So imagine the time when you were limited to your desktop, didn’t have a laptop. What did you do? You had the work computer and
the home computer and a floppy disc to move information from A to B. So it was. Even USB keys were a fantastic thing because you didn’t have to write a CD that takes so much time and they were limited and these could store more and more information, and then the hard drive and everything. I’d say the weak link is power at the moment.

**F**: I’m asking because in theory you could do everything from here so you wouldn’t need to move...

**S**: Well meeting people is important. That’s why you can’t do everything mediated. I remember an American manager told me that he had to hire someone in India and didn’t have time to go there and it was important that the person was reliable. So he interviewed people over Skype video collection and there was this pregnant woman nobody would hire because she was pregnant and he asked her directly, she answered very well to the professional issues questions, he asked her directly, ‘what will happen after you give birth? Will you want to be at home with the child?’ because she was due in three months, and hiring her for three months didn’t make any sense, and she said, ‘no I could work from home while the child sleeps. I need the money’. She was highly motivated. She was hired because he was able to see her. He said he wouldn’t have done this if he couldn’t see her. That’s something else. But you know the whole story with video connection, people don’t want to be seen the whole time. If there’s a specific thing, you need to sit an interview or a meeting, I can tell you a thousand stories about computer mediation going wrong in a group meeting or stuff like this because you make assumptions. This occurred to me that you tend to make assumptions that the other location, the other person, is mirroring your own environment. If I’m in an office, you’re in an office. If I have a good internet connection, you have a good internet connection. If it’s day here, it’s day there. You know? All these little things you don’t think about, they’re implicit. As long as nothing challenges your assumptions you don’t realise situations are so different.
F: Interesting, really interesting! Now moving to one of our last topics... You were talking about how computers enable you to get access to people and resources at an anytime/anywhere basis. I was wondering, how do you think these facilities are impacting on people's work-life boundaries?

S: That you can work from anywhere? Well, yeah there's a danger. First of all, something I didn't tell when I was talking about what do I need for my work, I need access to journals and you can have them from UL very easily, you can have them from home because now UL helps you to get in through their portal, and that's very important. Otherwise you have to save everything and take it with you. But now, because you have this access from home to the library, it helps a lot. Now, the work life boundaries. I think they're severely blurred and sometimes I tend to work all the time. So that's a bad thing because you do things at work that are related to your day to day life, to your personal life. I came in this morning and I called my mum because I remembered I didn't call her in a few days and by the time I go home she will be asleep, and then you want to make up for that time and you work in the evenings, or in the evenings at home things are more quiet and I can read. The same on Saturday or Sunday morning. But I don't really want to limit things. If I have something to do I will do it. It doesn't matter what time it is. I don't work 9-5. I always had other activities that look like work and I was doing them in the afternoon or evenings. Not having a family here I don't have any obligations. I don't need to feed anyone or pick up from the kindergarten, which is quite a relief. That was difficult to balance at the time. I don't mind working from my holidays or working when I'm travelling. I don't really mind. If there's something that needs to be done I'm doing it right then and right there. And of course, I take time off and I enjoy my time off and I'm forcing myself not to look up the email or anything.

F: So, when would it be interesting to have boundaries between work and life?

S: Well, when you burn yourself out. That's a danger because if you never stop and if you're not taking any time off there's a danger. I was reading the other day take a day a week without technology, or take a day of silence when you don't speak on the phone and you don't speak to anyone. We need to recharge our batteries. I think there are a lot of people who are juggling with their family that needs a lot of things
and the work, and especially young women. But, from what I see, many manage to do it quite well. Actually I have a recommendation for you [... recommends interviewee]

F: Now, in your opinion when would it be interesting to blur those lines?

S: If a woman has a change to work from home, it’s true for a father as well, you have little kids and you need to monitor them but you need to get work done, then when they sleep that’s the good time to do some work. So if you have a home office you can do stuff and again, when you travel, having a 20 minute interval when you catch up with the email and stuff. I think this is great that you can be in one place and keep an eye on your business in another place. Technology helps us a lot. But the use of technology, I would post things to Facebook that are for the students to see, but I would also post silly things about I went there and this broke and you know, which is not useful information, it’s just I’m interacting socially. So the boundaries are very blurred there. And you use Gmail for both work and for sending around stuff that you get in your emails. I think the boundaries, we’re using the same tools in the same hours, we’re switching from this to that and I was asking the students, would it be okay to use Facebook for teaching purposes and they said ‘no because that’s the tab I procrastinate in. I work on the assignment here and then I change the tab and I go there and if it would be the same UI it would be terribly boring’. That’s Google Docs for your working on the assignment then you switch to Facebook and you see something funny. Then you move back. So the boundaries are definitely, we use the same devices, the same applications, the same places for doing this and that and the same time, you know, because you are at home and keeping an eye on the food cooking on the cooker and you’re typing something. And I think it’s okay. I’m okay doing that. Complete separation? I don’t think it can happen anymore. Things came together naturally because 9-5 was when all the work tools were in the office and you couldn’t take a file out to work at home. But now as we have it, anywhere, anytime I think what we need to look at is how does the person manage. Your own healthy lifestyle. And it’s different from person to person.
F: So my last question is about design. We've been talking about technologies and using different devices for different things... My question is: do you think it would be possible to design a single device that could be used for all different contexts of your work?

S: I don’t know. I can’t really say. It could go that way because we’re hosting more and more information into the cloud and you don’t need a storage to take it with you, so if you would have something a big chunk of space online where ever, and something like an iPad that you would take around, something that’s not very big, it’s handy to use. At the moment the way the iPad is conceived with the apps it’s not the right thing, but if I were to think about it, it would be a device to allow you to access online software, so applications you are using and online data, and being connected like the Kindle from anywhere you go. A network. A mobile or a Wi-Fi network. That would be probably it. I think this is a matter of evolution. We might get there or we might still use horses for courses, this for that. It’s related to the work environments. Some people don’t want to give up keyboards and find touch screens, because they wipe with dirty fingers, and stuff like this. I’m looking at [name] she’s typing on her iPhone in the kitchen and she’s taking pictures from the kitchen, so I asked her, ‘how do you manage?’. ‘Well I wipe my hands, I have a cloth and I wipe my hands’. Because that’s something. I’m in the kitchen and the phone rings and I can’t manage to answer, to press the bloody button. So that’s one thing. Yeah. So they might converge but I think again there will still be different tools for different things. Think about games developers. We need very powerful computers, you know the graphics? That’s something different. Think about all the data analysis that needs to be done in a medical environment. I don’t know if you can design something that would work and even now look at the different categories of laptops there are for sale and different people choose different things and you need a consultant to tell you what to buy or you answer an online questionnaire: what’s the best thing for your needs? What will you do with this piece of technology. So I don’t think convergence will happen. And I wouldn’t work for something like this at home or for 8 hours in the office, because it’s too small, I can read on it but I’m forcing my eyes, so I don’t think we’ll have an universal device. We’ll still have different things for different purposes, but as time goes by most of the devices were learned to how to do the basic things, like look at the
kindle, it was developed for reading offline and now it has more and more functionalities added to that because people want to get online with it. So, yeah, and it’s, you know e-Ink and it is not an LCD display because it’s better for the eyes.

F: And how about a key device that is able to communicate with other devices, for instance, you arrive with this here [pointing to her Smartphone] and you can have things projected in another thing, you know, and...

S: Like kinetic thing?

F: Yeah, yeah...

S: Yeah, if I could, and again, it’s a matter of how skilled you are to move things with your hands and it might be frustrating. Of course things will develop and will get better and better, yeah, I can imagine that interaction with computers will become more natural, you know, like with the kinetic, you know, the computer, you will interact with your body so there’s no keyboard or mouse, it’s the body. [whispering] But it depends on what you want to do. So there’re many, many things, so if it’s about doing maths online interacting with your body doesn’t make sense. If it’s about e-Health and that stuff like that, so... It’s strange that you think about one point of interaction when we have this ambient intelligence thing around us and computing is distributed in things like in the fridge, in the walls, in the lift, and you’re thinking about something central. It wouldn’t have occurred to me. So I think the main thing is to make all of them to communicate and avoid duplicating work and having... But there’s something scary about it, have you seen that pizza surveillance video?

F: No...

S: I have to show that to you. So there’s a scary video put online by an association for human rights that shows a guy driving home ordering a pizza on the phone and woman who answers the phone knows everything about him, everything about the neighbourhood he lives in, and it’s kind of scary and do you want everything automated? I’ve seen a lot of projects going that way, so collecting data centralising it and then making decisions for you. I don’t want that. I want to be in control, you know, and I want to choose what decisions I want made for me, and what would be the implicit values for everything, you know, like Facebook shows your picture to
everyone unless you go in and change the level of privacy. So, yeah, I think networking, the internet of things could help us a lot but there're a lot of concerns as well and, yeah, it would be nice when you get to a library not to have to show your permit because you will be recognised as you go in and you have access and you can, you know, project things on the table and browse through the book electronically, but again, it's a matter of what technologies can do without annoying, frustrating you and again we need studies, like you can't make assumptions because you can do it, it should be done.

F: You mentioned frustration, so could you tell me any stories about, you know, having to work somewhere and technology failing you...

S: I can tell you a horrible story. I used to have an HP laptop with Windows 95 on it, no XP, XP was already on it, and then UL bought me a laptop and it came with Windows Vista and I wanted to kill myself, I managed to survive for a month and then I brought it back and then I said [the lab technician] I want XP on it. I couldn't stand it and, you know, I said, I have to be patient, this is new, I'm going to get used to it, but I needed to get the job done and then I couldn't. I couldn't find the buttons, it wasn't intuitive at all and I was looking around desperately to find them and I had to search the help and stuff like this, you know, technologies should be simple enough...
The other thing is the cooker, when I moved into the apartment I couldn't bake the first cake without reading the bloody manual and that's frustration, you know, it has to be intuitive enough, and what annoys me is again when they change the UI over night and you don't have an option to reverse or anything, now, Facebook got better at it, they only change you to the new profile if you choose to do so and they try to persuade you showing how many of your friends have changed to the new, so it's kind of slower and you can still go back one step, so they tend to understand now that there's something and I've seen, one of the studies I have done in [company's name] people were working with a bug tracking database, they worked with it for about seven years, and then they had to switch so something else and they couldn't put their head around, they had six months to finish and they thought they wouldn't be able to unless they stick to the old thing, so they had to use two in parallel, this was their decision and it proved horrible, so they should have taken the pain of switching and then learning, but that came in hand side.
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**F:** How about working in an unknown environment, for instance, when you go to conferences and you have to present and you have to set up your presentation?

**S:** Yeah, but they’re most adaptors because power point is so ubiquitous and... but yes, there are problems and it happens so you’ll be frustrated, you know, every time you try to bring on the speakers something doesn’t work, you know, and this is the Murphy’s law, as they call it and it’s setting up, you see, being a nomad means, if I don’t have my technology with me, if I have to use someone else’s I have to adjust, I have to configure so that it suits my purposes if I intend to work there for longer situation, think of public computers in libraries and in Internet shops and stuff, so, it’s not seamless. It doesn’t store your password, there’re so many things we don’t think about when you use your own devices and that setting up is a process that you don’t take into account, especially when you have a guess speaker, you know, you don’t reserve time for that and you’re faced with the situation “this doesn’t work, I haven’t thought of bringing an adaptor”, you should have told me and the whole thing and that’s the crack that makes you think. But once it happens to you, next time you are going to be prepared. That’s the advantage.

**F:** OK, then, I think that this brings us to the end of this interview, I covered everything I have here. Would you like to add anything else that I didn’t ask.

**S:** No, I think that it is OK, you can send me an e-mail questioning if it’s necessary, if something is not clear, or.

**F:** OK, so that’s all thanks a million.

**S:** You’re welcome.

[END OF INTERVIEW]
8.55 Today I am shadowing another participant. We have agreed to meet in the computer lab where she will be delivering a tutorial. I arrive in the lab and the students are already there waiting for her. In fact we had previously agreed to start the shadowing at her office, one hour earlier, however, she had to go and take a blood test before coming to the university, so she kindly asked me to start the exercise straight from the computer lab.

10.00 She arrives in a hurry and leaves her belongings in a computer desk in the front line of the lab. I ask her whether everything went OK with her test and she tells that she has to wait to see. She turns off her mobile telling me that lately she has been receiving many marketing calls and texts. She goes on to the lecturer desk and turns on the computer on it. The first thing she does after logging in is to go on the department’s website. She logs in the website and get in the online platform she has set up for the module. While she is interacting with the computer a student arrives. She stops him as he is heading for the computer desks and starts talking with him. It seems he is working with her in some project. I cannot identify whether it is a project for this module or a separate module. She tells him that what he did was OK, although she was not able to access part of the system. She asks him for the password and he says he will send her the password via e-mail.

10.05 She starts the tutorial telling the students about some papers they have to read for the tests she will made available weekly on SULIS, the university’s official learning management systems. After that, she goes on to recap the content she covered in the last tutorial by exploring the course wiki. While she is doing that, she remembers something she would like to show the students. She goes on to her Diigo account, logs in and looks for a link she wants to show. Today she is talking project management software, i.e. applications that

*The statements between inverted commas are approximations of what was said.
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can be used for managing collaborative work e.g. Microsoft Project, Basecamp and ActiveCollab. She starts explaining what project management is and suggests a book for the students, giving them her opinion about the book. She talks fluently about the topic, interacting a few times with the content of the browser window she has open. All the material she uses in the course is available in the platform and is accessed via web browser. She starts talking about specific pieces of software that can be used for project management. She presents the functionalities that students can find in each tool and gives a short demo of what can be done in each of them. The browser usually has two tabs open: one shows the wiki content and the other the site of the tool being present. Students keep coming in as she is presenting. I start paying attention to the environment and the people in it. Some students are taking notes in paper notebooks. Some are interacting with the PCS. I wonder whether they are looking at anything to do with the tutorial.

10.22 She right clicks on a link in the wiki content and opens it in a new tab. She goes through the content of the page very quickly, summarises the content verbally for the students and close the tab. She opens a new link in a new tab. This one is to do with Microsoft Project 2010. She asks the students how many of them have already used it. Some students raise their hands and then she asks about their experience. Some of them give their opinion on the tool and them she goes on to talk about her own experiences when she was working in a big software development company. She closes the tab and opens another link, this one to do with Basecamp. She tells the story about the tool and its developers pointing some features of the tools on the screen. She browses the site an opens a demo video. The video starts playing but there is no sound. She tries to find the sound control on the system tray icons but she cannot see it. She goes to the Control Panel, opens the Sound controllers but she cannot find the control to raise the sound volume. I go to her help and show the sound icon that was hidden in the system tray icon. Now the sound can be heard loud and clear, although there is an annoying bip sound due to bad contact. She rewinds the video and starts playing it once again. As the video plays, she stares at the PC screen. She doesn’t say anything until it is finished. After that she explains about the tool and decides to see what the
mobile version of it does. She clicks on the link to find out and very quickly she comes up with an overview of it.

10.30 She goes back to the page of her online platform. One of the tabs she has previously open remains open. She opens the link to another tool in a new tab, and then she goes immediately back to the page. She opens the site of other tools. In the end she has five tabs open. After doing that, she goes on to explain each tool, talking about advantages and disadvantages of each one. When she finishes, she close most of the tabs leaving only two open: one with the learning platform and one with info about Basecamp for iPhone. The number of open tabs keeps going up and down as she proceeds with the tutorial.

10.48 She opens a new blank tab, types an URL, goes to a website with another tool, presents its main functionalities and tries to log in to find out that her access has been suspended. She explains the students she has not logged in it for a long time and it is probably because of that that she got her access suspended. She tells the students that she used to use that tool before to keep her to-dos but now she is trying to do that in Gmail. She says that it is important to have all appointments and tasks in a single place. Although she is not used to doing that, she is trying to change and to do so. Having said that, she goes to her Gmail account, logs in and shows her to do. She explains how a task can be added, edited, reordered and deleted. As she is demonstrating the tool she realises that there are some tasks there that she has already performed and that she forgot deleting. “Oh God, I’ve already done that. You see, if you don’t check it as soon as you complete a task, it tends to stay there forever”. It is interesting to see how she uses her personal accounts to teach the students about the tools that she is exploring. She keeps talking about tools. Now she is talking about Buzz. She goes back to her Gmail account and shows Buzz. She explains what the tool is about and shares with the student a thought about it. She thinks that it will not last for long, as Google Wave did not. “People tend to forget things…”, she says. She mentions that she tried to keep up with Buzz when it came alive, but with Facebook, Buzz was born already obsolete. She goes on to explain that people do not like to go to different places to do related things.

10.58 She stops her presentation and gives the student a break. She reminds the
students that after the break there will be individual presentations. For the records, the tutorial is organised in two parts. In the first part she talks about tools that can be used in as collaborative context and in the second part there are two or three student individual presentation on papers related to module topics covered the week before. Each student has to deliver a presentation in one of the tutorials and the papers are usually suggested by her.

11.00 Most of the students leave the room. The ones presenting after the break stay to load the presentations on the lecturer computer. She comes to me and sits beside me on a chair of one of the desks in the first row of computers. She tells me that she is going to check her e-mail on her Android. As she is going through the e-mails, she comments that 2 students sent her e-mails complaining about the marks she gave them. “I have to meet them”, she says. “I’ll arrange a date later”, she goes on. She shows me one of the e-mails of her e-mails. She received it on the 8th of March, but has not replied to it yet. “I’m up to my ears”, she says. She shows me the history of the conversation and said she will try to handle this as soon as she can. She goes on to show me another e-mail from one of FYP students. She tells me that they had a meeting scheduled for yesterday but she did not show up. Instead, she sent an e-mail in the last moment saying that she was sick. She goes to the calendar on her Android and mentions she will try to find a slot to meet her. She tries to access her Google calendar but the access fails. “I’m having problems with this. I can’t access my Google calendar. Only Facebook events are appearing here.” She tries to find out what is going on and I notice she forgot to grant permission for her application to access information on her Google calendar. We find out together how to grant that permission to her application. “Well, now it seems to be working”, she says, thanking me for the help. She shows me her calendar and explains how she organises it. She uses tabs with different colours to separate between UL and personal appointments. She explores the calendar, checks her availability during the week and goes on to say “I’m very busy this week... I don’t know when I’ll be able to book her.” Then she complains that they leave for the last moment to say they are not coming and that she is doing her a favour. “Other people won’t do that”, she adds. She considers scheduling the appointment during lunch break. “I wouldn’t have my lunch,
though... I don't know what to do”, she says, moving to another e-mail. This one is from a student from [continental Europe country] who is coming to visit her group. “She will stay for a couple of weeks, working in our laboratory.” She goes on to say that the student sent her an attachment. “I don't like attachments because you have to open it,” she tells me explaining that opening attachments on the mobile is not convenient. Even saying that, she goes and opens the attachment and tells me that it is to do with the abstract of the student’s thesis. “She’ll be writing her thesis during the time she spends with us. Yesterday she sent me an e-mail saying that she would like to do some work for me while she is around. I don’t know what to do with her. She will stay for a very short period of time.” She explains that in fact she is not expecting the student to do work for her, but that in the student’s mother country, this is quite common when a student is visiting another centre.

11.15 She goes on to tell me that she is going to show me her “shine new baby”: a Kindle. She says that she is doing some reviews for a conference. I ask her whether it is easy to keep it synchronised with her mobile and Desktop and she tells me that it is not trivial. However, she says, she can manage synchronisation manually. She shows me the device, telling me that one can resize the book text to make reading easier, however, she cannot do that with PDFs. “But when it is in the landscape view it is OK to read the PDFs”, she says putting the device in the landscape view to show me. Another feature that she is excited about is the one of accessing the Internet. “It’s great”, she adds. She tries to interact with the device as it had touch screen. “God, I’m so used to my mobile”, she goes on to explain that her mobile has a touch screen. Another difficulty she has is to use the direction buttons to navigate in landscape. When in landscape, the navigation button disposition does not seem to match her mental model. As shown in Figure 10, when interacting in the landscape view, the user has to remember that the button in the up position is in fact the left button. She keeps pressing left and right when she wants to move the text up and down.
Students are back in the room and the first presentation is about to start. The student goes on to the stage, start the slide presentation while she sits close to me in the first row of computer desks. She takes some notes on a paper notepad while the student is presenting. She suddenly interrupts the student to give an example of something that happened to her some time ago that is related to what the student is presenting.

The student concludes his presentation after she asked him to speed up. He was supposed to start a discussion, questioning the other students, but instead he gives his opinion. She then intervenes and starts a discussion.

The second student to present on the day goes on stage. He starts the presentation and she continues taking notes in her small paper notebook every now and then. The same happens in the end of the presentation.

She seems to have forgotten about the next session in the laboratory. The student is still presenting. She warns the student that he will have to speed up a little bit because people is waiting outside.

She tells the students that the lecturer of the next session is about to kick them out of the room and asks them to leave quickly. She does not have the time to turn off the projector or to log off the computer. She asks the next lecturer whether it is OK to leave them like that and he confirms saying that he will use the computer in a minute. She rushes off leaving me behind. I hurry up to catch up with her. She checks her mobile while she is going downstairs. She stops and waits for me and as I get close to her she asks me whether I am shadowing her during lunch. I say that if she allows me I would be delighted. She says that she is heading for the farmer's market that is held in the university every week to buy some vegetables for the week. She goes on
to tell me that she arranged to meet a friend in the market. It is a beautiful day. She tells me about the activities she performed during the weekend. She says she took a friend to a park near a city in County Clare that is very beautiful during spring. We also talk about driving lessons as she knows I am planning to take my Irish driving licences soon and she took some driving lessons recently after she got her a car.

12.15 We arrive in the market. There are several stall selling different goodies as it is depicted in Figure 11. She starts looking some stuff. She explains that she likes getting her veggies from the market. Her friend seems to be delayed. She calls her friend to tell her she is already in the market. After doing that, she starts selecting some stuff, asking the stall owner for some bags. I ask her whether her friend is coming and she says that she is on her way with another person. Five minutes later they arrive. They buy some veggies. The person accompanying the participant’s friends gets herself some teas and buys a piece of pie for lunch.

![Figure 11. Stalls in the university's farmers' market](image)

12.30 They finish buying what they need and she is ready to go back to her office. I tell her that I want to get something to eat in the university’s main restaurant on our way to the office. She tells me that she has to do the same, so we can go
together. Her friend also says she needs to buy her lunch. Only the person accompanying the participant's friend got her lunch from the farmer market. The four of us go to the main restaurant. On our way to the restaurant across the university’s main building she says that she is not used to that building yet and that sometimes she gets lost.

12.40 We arrive in the restaurant, buy our lunch and head towards the participant’s office. The other two persons who joined us in the farmer market work in the same laboratory where the participant’s office is based at. We arrive in the laboratory and have a sit in the munching table available in the social area of the laboratory. We have lunch while we have a relaxed chat, joking and laughing.

13.30 She tells me that she should go back to work. We go into her office and she says that it is e-mail time. She opens Outlook for checking the messages that she got from her UL account. She goes through the e-mail very quickly and tells me that she is deleting the ones she thinks it is not interesting. “I have no time for all of this. Some of them had to go”, she adds. She usually checks the first lines of the message in the reading panel on the right and deletes it straight after making her mind about the relevance of the message. She opens a message about a project with an international university that was offered to her. She explains that she would not be able to coordinate it so she forwarded the project for one of the research groups she is part of in the university. However she is keeping an eye to see how things are going and collaborating when she has the opportunity. “I want to get more involved with this in the future”.

13.35 She informs she is going to contact a student regarding project on Facebook. She goes on to tell me that they are investigating how Facebook applications can expose users’ data, explaining that usually users do not know that their private data can be leaked by those applications and that this has ethical implications.

After she finishes the e-mail she moves to Gmail. She goes on to explain that she is signed for a couple of sites she finds interesting or relevant to her research, but she cannot follow all updates from them, so when she has the option she subscribes to the digest from the site. She opens one of the digests,
see the list of news and goes on to check one of the titles she finds interesting.  

13.40 She goes back to e-mail and check her Facebook weekly update. “Nothing urgent there”, she says. She opens an e-mail from Twitter that says that a couple of people are now following her. She identifies a person that start following her that she wants to follow back. “This guy started following me and I will follow him back. I don’t know him personally, but I know many people who are following him and many of the communities he is in”, she says. I asks her whether she would add somebody she does not know personally on Facebook and she goes on to explain that she tries not to do so. The reason for that, according to her, is that Facebook is a symmetric medium while Twitter is asymmetric. “When you follow add a person on Facebook not only the person see what you’re posting but you see what the other person is posting as well. When I follow somebody in Twitter, that person won’t see what I’m posting unless he follows me back and I accept it”, she says mentioning that sometimes she feels really uncomfortable to add somebody she met just once in a conference an sends her friendship request on Facebook. After explaining that, she goes back to checking her e-mail. “I’m getting a lot of rubbish lately”, she goes on to say that there is somebody from her home country that sends irrelevant e-mails to a distribution list she is in every second day. According to her this is the price to pay when you are part of distributions lists. She explains that when she gets something from a distribution list she checks the title and deletes the message if she thinks it will not be relevant. “I do this a few times during the day to keep my inbox clean”. She gets an e-mail from a distribution list of a supermarket of the city and tells me that she would delete it but she will keep it to unsubscribe to that list afterwards. A few deletions after that, she goes back, opens the message, click on the unsubscribe link saying that she will be surprised if that really works, i.e. if she stops receiving e-mails from that distribution lists. She returns to the inbox. She gets a message from an education institution talking about a new course on her area. She goes to the website and says that the course offered is not a good one, explaining the problems with it. She is annoyed with the way the course is being sold and says that many people will fall for it. “This is one of the ways that the web can be bad”, making reference to the fact that information on the
web can be deceiving.

13.50 She goes back to Facebook, reply some posts on her wall, post some other stuff and then move to Twitter. “There’re thousands of tweets I haven’t read, it’s just impossible”, she says explaining that she usually checks if there’re any mentions to her that request an answer. “No, there is nothing now, so let me read some tweets”. She goes on to read some tweets and finds a link that should be of interest. She opens the page and start reading it. “I won’t have the time for this now, so I will bookmark it in Diigo”. After the third page of tweets she says “that’s enough. I’ll close this otherwise I’ll get sucked into it”. She goes back and gives a quick check on Facebook. She sees some posts and tells me that those are old posts and that she wants to see the recent ones. She does that very quickly and goes on to tell me that she has no more time to spare with this. She goes and gives a last check on her e-mail and tells me that we should leave to the lecture she is teaching from 2 to 5.

13.55 She goes on to tell me that all she does is to lock her computer before she leaves. “If I shut it down it’ll take ages to start it when I’m back”. She takes the envelope with the attendance sheet for the module (she keeps a separate envelope for each module), takes a book that she told me she would have to bring with her and looks around to see whether she is not forgetting anything. “I won’t need my Kindle, I won’t have the time to read... Hard drive? No I won’t need it either”, she says as she takes some items from her purse.

14.00 We have got to rush. The lecture should be starting at this exact moment. Before we leave she gives another quick glance at her e-mail inbox. We head for the department building and in the way she offers me chocolate. I thank her and say that I am OK and she insists telling me that there is a popular saying in her home country that says “From present to present we bring heaven on Earth”. We keep moving fast and she fill me in on the plans for the afternoon. She says that from 2.00pm – 4.00pm students will be presenting on their research. At 4.00pm she will have to leave the students for 15 minutes to take a visiting student under her responsibility to an invited talk she will deliver from 4.30pm. She tells me that she has to take the student for Open Coffee some day since she will find other people from her home country and that would be good for her to socialise.
Appendix II – Sample of Fieldwork Data Set

14.10 We arrive in the lab. She turns off her phone, takes the paper notepad from her purse, takes a pen joking that she does not know it; “I should have ‘stolen’ it from somebody”, she says with a smile. The first student is ready to start. The presentation starts and she keeps taking notes in her paper notepad now and then.

14.46 The second student is getting ready for his presentation. She checks her mobile. Then she takes her Smartphone and start interacting with it. She tells me that she forgot posting something to the wiki page of the module. She is doing it now. Presentations and comments take all the time until 4.00pm.

16.00 She sees the student she will take to give the invited talk at 4.30pm coming through the laboratory window. “There she comes; I will have to leave for some minutes”. She asks me whether I want to follow her or if I prefer to take a break. I thank the offer and tell her that I will stay and have a coffee. I definitely need a break. I am following her since 9.00am.

16.15 She is back. She arrives, takes off her coat, put her purse on the lecturer desk and starts interacting with the lecturer computer. She turns on the projector to show that Safari is open. She goes to the module page and start explaining the grading scheme she is adopting to mark them. She asks them to send her the links for the Blogs she asked them to create and say she will follow them by using Google Reader. She opens her Google Account, goes to Google Reader and shows how she follows the work being done in different modules. She has specific folders for each module. She goes on to show where the updates from their blogs should appear in her Google Reader. After doing that she tells about bringing a guest speaker to talk with them. She asks whether they have interest on it because she does not want to invite the person and to have a low turn-out on the day of the talk. She goes back to Safari, opens a new tab, googles for the name of the person she intends to invite, goes to his personal homepage, introduces him to the class, open his thesis, says that it would be important if they found the time to read it, although she acknowledge the length of the thesis. She reads the thesis index for the class to have an idea about the work the person has done.

16.30 She starts the lecture. She clicks on a link in the wiki page she loaded in Safari. Today she’s talking about design and creative research. She suggests a book
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(the one she brought) and goes on to read bits and pieces of it, explaining the concepts that are covered in each passage she reads. She goes back to the wiki, open another link in a new tab, start talking about action research and how it overlaps with ethnography. After that she goes on to discuss how case study cannot overlap with ethnography because of major differences. She talks with the students very relaxed sat in the lecturer chair.

17.10 She finishes the lecture and tells the students that she will give them a short break and then she will go around and sit with each individual to talk about their research and to give them some feedback that can help them out to walk towards the right direction. She comes to me and says that she needs to stop talking for at least five minutes and to take a walk for some minutes to move her muscles. Having said that, she leaves the laboratory for a few minutes. I follow her. She goes on to check her e-mail messages on her Smartphone. A student comes out and asks her if she can have a word with her. She agrees and they start talking about supervision and the project she intends to develop. After a few minutes the student goes away and she turns to me to explain what that student is doing. She says that she probably she is not the best supervisor for that project and that she will direct her to another colleague from her group. She goes back to check her e-mail on her smartphone. She tells me that she has got a request from someone who is looking for employees. However, her past experience with him was not very good (he did not pay a former employee that she knew properly), so she intends to stay out of this. I ask her whether she is going to work when she arrives home. She says she will have to go to hacker space she is helping to coordinate to write a proposal. She goes on to say that she is the person who keeps the keys so she has to be there at 7.00pm the latest. “You know, it's too much to do. I can't cope”, she adds with a deep breath. She tells me that she has a lecture tomorrow morning that she still have to prepare; she also has to prepare a questionnaire regarding a taught module she is giving this semester. She says she could extend the deadline but that would not be good for the students and it would not be good for her either. “But I think I’ll have no option”, she says a bit disappointed.

17.25 We are back to the lab. She asks who want to be the first. One of the students
Asks for clarification: “First to what?” She says she will go from person to person to help them out to find some keyword for them to start their literature review. One of the students volunteers himself. She sits beside him and he asks whether she printed the blurb he sent her. She confirms and they go through the blurb with hers giving some feedback to him. She suggests some names and some keywords. She opens the Internet browser, goes to Google, googles some terms, goes to a Wikipedia article and suggests him to read it and to check the External links. She goes to Google scholar and shows him how to use it properly. Then she goes to another website to show him some things similar to the one he wants to develop, suggesting him to change some aspects of his project so it would not end like something already existent.

17.36 She finishes talking with the first student and moves to the next one. She previously said she would spend 5 minutes the most with each student, but the first student took almost 15 minutes of her time. She sits beside the student and checks the blurb she got from the student. The student explains that she tried to get in contact with some people put unfortunately they has not come back to her. She says she will try to follow up and the lecturer goes on to say that the project is interesting, but since she intends to work with children she will need ethical clearance. She agrees but says that before seeking clearance she wants to be sure of what she will do. The lecturer goes on to do the same Google bit she did with the previous student and suggests some readings. She also tries to find a contact she knows who might be interested in this project to suggest to the student. She checks her paper notepad but she cannot find anything. She goes back to Google to try to find other applications for the idea of the student. The student starts drafting some of the ideas that come to her mind in a piece of paper showing it to the lecturer. The lecturer goes back to Google and tries to find the contact of the person she wants to pass to the student. She opens a website but cannot find the contact straight away. She then uses the search engine in the site, finds some links, clicks on one of them, but she cannot find the information she wants.

17.58 She goes to Google scholar to find some literature that the student can read.
Put some keywords, suggests some bodies of literature, does another Google search, tries new keywords, open a new tab in order not to lose the results of the previous search, search for other concepts, goes to Wikipedia, goes to CiteULike, sees some papers related to the topics, explains to the student how CiteULike works and highlights that it would be a good starting point for building up the literature. The search extends for another few minutes. When she finishes the second student, I tell her that I will need to leave her. She takes a look at the time and is astonished. “I won’t be able to talk with all of them today”, she says. Then I decided to stay until the end of the section.

18.10 She tells the students that she will resume the feedback session in the next lecture and goes on to pack her things to go to the city centre, where she has a meeting with her colleagues from the hacker space she is participating. I thank her for all the valuable information and tell her I will be in contact for a follow-up interview.
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SHANNON –ACTIVITY DIARY 1

1) Date (DD/MM/YYYY): 30/04/2011

2) Location (City/Country): Dublin, Republic of Ireland

3) Main purpose of the trip:
   (X) Attend conference/workshop/etc
   (X) Present at a conference/workshop/etc
   ( ) Visit to another research centre
   ( ) Other (Please, specify):

4) Time of the day when the diary was filled in: 22:30

5) Place where the diary was filled in: Kavanagh Bus – Dublin-Limerick
6) Please, use the following space to tell about your day:

I went to Dublin on the 29th of April (a Friday) to participate in the activities organised around [event webpage], a festival of ideas celebrating Irish creativity organised by [organisers’ names] in the centre of Dublin, in [venue of the event]. The festival included events related to Irish [communities of practice]. There was a tent [for member of this type of community of practice] in the festival area, where activities were organised for all the 3 days of the festival.

I happened to be the only participant from [my group], which is the Limerick-based [community of practice].

My motivation was to study in situ the phenomenon [of interest], to find out more about the demographics of its audience, and its wider coverage. Besides the [community of practice] tent, there was a Poetry tent where original work was read, a political cabaret, Ignite talks and activities dedicated to children.

I had participated in the activities on Friday, 29 April from 6 to 9:30pm and I spent the night in Dublin with a family of friends.

On the morning of April 30, I checked my email on my Android phone using my friends’ wi fi connection. Student reports were supposed to be in by the 29th of April, but I was still getting late submissions.

I checked the [event] timetable online and chose the activities I wanted to go to.

Once on the tram (LUAS) I also checked the timetable of Dublin bus using my O2 mobile phone connection – I was a bit late and instead of walking, I chose to catch a bus from O’Connell Street to [the venue of the event]. The website gave me an idea about the specific buses and their Saturday time table.

I arrived in [venue of the event] shortly after 12pm and went straight to [one of their workshops]. I took notes on my paper notebook, I googled some of the websites the speakers were referring to on my Android phone, and took a few pictures. I also tweeted about it.

The next talk was on [a topic of my interest] – same activities as in the previous.

Each talk lasted 30 min.

During the interval, I went out to meet people. [Members] from the Galway [community of practice] were launching an iPhone app to help people network better. Unfortunately, it wasn’t available for Android and [one of the people demonstrating the app] failed when she tried to register me using a web browser, so that I can “play” too.

I went to look for the famous [inventor of one of the materials that we use for our activities] to invite her to give a keynote at [a conference that we hold] in Limerick. I had never met [her] in person before – but I had seen her in pictures and videos. I decided to hang out around the [her] stand- a guy was talking about [the material] and selling smart packs. I was able to share a couple of things I had done with [it] and help him convince a few customers when [she] appeared. I started talking to her about UL, [our community of practice], [our conference], before making the invitation. We were in touch with her via email before, but she had declined. She listened and seemed enthused about the idea and promised to get back to me.

I ran back to the tent, where [another] workshop was starting. Under the supervision of the team from [location], I managed to produce this funny animal after 2.5h of [working on it].

[Twitpic.com URL]

I was then dragged to sit on a panel in another tent, on behalf of [my group]. It was a bit embarrassing to be on stage and to be prevented from taking pictures, but I still managed to tweet and send messages to Facebook.
The last event I took part in was a series of [short] talks. My Android's battery got exhausted in the middle of that, and I had to use my Nokia phone to tweet.

I also had a Flip video camera with me, but only used it for a few shots.

I left the [venue of the event] at 21:30, running to catch the JJ Kavanagh Limerick bus. The bus had wi fi, but I had no battery left at this point.

So, to resume:

1. work activities:
   - answering email
   - field observation, notes and pictures taking
   - reporting from the event
   - lobbying for [my group] and [the conference we organise]

2. Places- 3 yurt tents in [venue of the event]

3. Artefacts: [event] printed timetable, paper notebook

4. Computer technologies: browser, mail, twitter and Facebook on Android; twitter on Nokia phone, mobile internet connection via O2

5. Reasons: I wanted to observe the activities.

6. Lack of wi fi – I used the mobile connection; battery exhausted – I used the other phone

7. I would have missed a lot of context. Not being able to google people and sites would have made the experience poorer and would have prevented me from contacting specific people. I found out that Eva, a former student [of the Master programme our group offer in UL], was around because she saw my tweets and I saw hers.

I was able to convey questions from Limerick to the people attending the event. I was also able to follow what was going on on the back channel – which gave another dimension to the event.
Practices of Technologically Mediated Nomadicity in Academic Settings

SHANNON – ACTIVITY DIARY 2

1) Date (DD/MM/YYYY): **15/05/2011**

2) Location (City/Country): **Abroad – Continental Europe**

3) Main purpose of the trip:
   - ( ) Attend conference/workshop/etc
   - ( ) Present at a conference/workshop/etc
   - ( ) Visit to another research centre
   - (X) Other (Please, specify): **Family Visit**

4) Time of the day when the diary was filled in:

5) Place where the diary was filled in:
6) Please, use the following space to tell about your day:

Between Monday, May 9 and Wednesday May 18, I was in [my home country], attending to family business.

On Sunday, May 15, I had more time for catching up with work than in the previous days. As I knew that Monday and Tuesday were going to be busy, and Wednesday I was going to be on my way back to Ireland, I chose to do work on that day.

Around 11am, I sat down in front of my laptop in my mother’s apartment, using the Wi-Fi connection we have there, and went through my UL email. There were a few emails I had seen before, but didn’t have time to answer.

One was from a secondary school student interested in our [undergraduate] programme. As I didn’t know the answer to the question he was asking, I searched the Handbook of Academic Regulations that I downloaded from the UL website for that purpose. The answer was still not obvious, so I checked if my colleague Lucy was online on Skype and dared to bother her on a Sunday morning with a work question. Fortunately, she had the answer, so I was able to write the reply and send it. I also arranged to meet my supervisees after my return in Ireland and added the dates and times to my Google calendar.

Then, I was contacted via Yahoo Messenger by Luna, a [foreign] PhD student who is currently working with me in the [laboratory] about a paper we were working on for the [particular] conference. She shared the draft paper with me via Google Docs and asked for my opinion on the introduction. I made a few comments, then we discussed my contribution and made a plan about future work.

As the weather was lovely, I decided to copy the [students’] reports that I had to read and mark to my Kindle device and go out to do this.

I found a nice café by the canal that’s crossing [my hometown], sat at a table and ordered an ice coffee before starting to read. Initially I took out my paper notebook to make comments on the papers, but very soon I decided I’ll try out the commenting facility on the Kindle. It was difficult in the beginning, because the succession of commands and the keyboard were unfamiliar, but soon it got better. In the beginning the café was quite crowded and at times I was distracted by conversations taking place around me. I overheard a discussion about Facebook and hoaxes that drew my attention and I tried to Google the issue on my Android phone, using my mobile Orange connection. I made a note on my notebook (I haven’t installed Delicious on the Android yet) to bookmark the issue and maybe use it in a lecture for the Introduction to Digital Media module.

Around 2pm, almost everybody left and I had a quiet time and read 5 reports in 3h (15-20 pg each).

The place was lovely, and I took a picture or two with my Android. It occurred to me to look for a Wi-Fi connection – and yes, there was an open one belonging to the café. I took the opportunity and shared a picture on Facebook, to give Fabiano an idea about the environment. I also mentioned Fabiano in a comment, to draw his attention to the picture.

I also quickly scanned my emails, but postponed to answer for when I got back at my mother’s and could use my laptop.

1. Work activities: email, paper writing, reports reading and marking
2. Places- my mother’s apartment, a café by the canal in [my hometown]
3. Artefacts: paper notebook
4. Computer technologies: browser, mail, Skype, on the laptop using Wi-Fi connection, browser, Facebook on Android using mobile connection and Wi-Fi hotspot; reading and commenting on Kindle
5. Reasons: catching up with work during a 9 days trip to [mother country]
6. **Problems**: no problems this time.
7. **Without computer technologies, I couldn’t have worked outside of my office in UL. Reading outdoors could have been done by printing out the reports and commenting on them, but it would have added to my luggage.**
**FOLLOW-UP INTERVIEW WITH SHANNON**

*Transcript*

*July 13, 2011 – 2.30 – 4.00PM*

**F:** This interview is actually based on the first interview and also in the diary you sent me and some of the issues that are emerging from the data I’ve collected so far, OK? So there are some points for clarification and some other issues that have been arising, so my first question is, have you got any new toys since the last time we met?

**S:** Well I guess the last time we met I didn’t have the Kindle.

**F:** ... You had, yeah, you had just got it...

**S:** So nothing else since the Kindle.

**F:** Yeah, yeah. OK then... and how’s it going with the Kindle?

**S:** With the Kindle, I love it. I have a lot of stuff now on it both papers and books bought from Amazon, but I think it’s wonderful, not having to wait a week or two until the book arrives and be able to buy it straight away. There is so much that you can transfer to it and have it on the road and again as you saw in that ad [Google Chromebook ad page] you don’t have to wait for the Kindle to boot, so all the books are under your fingers. I’m doing a lot of reading.

**F:** Interesting, how about the functionalities that you have on the...

**S:** The commenting?

**F:** Yeah

**S:** I was struggling but, yeah, I tried to use it with the reports I was reading and, because I had time it was nice, you know, but when you don’t have time you tend to get frustrated and go back to the old stuff. Well, that is always...
F: I was just going to ask you what happened that you decided to use that functionality at that time?

S: Because I had plenty of time. There was nobody rushing me and it was lovely and playful. I was sitting there and trying to see what it can do and because there was wireless I could also go on the Internet and search words and stuff, so I was exploring the functionalities. There was no pressure. When there is pressure then it...

F: That was really interesting because, you know, you’re saying, OK I’m reading and marking and then, I’m just going to use this and I was interested why at that moment.

S: Yeah, because there was time and I always wanted to do it, you know, when you’re in a rush and you don’t know if you have enough time to fulfil the task without adding time to learning a new tool, a new [piece of] software or a new [piece of] hardware, it’s stressful, it adds stress and you don’t want to deal with that. But if you have plenty of time, you know, playing with a toy is nice and then you discover you can use it and then you can use it from then on. That’s the mainly, the time and pressure.

F: Talking about kinds of interaction, how useful it would be if you had handwriting recognition in your Kindle, for this task of commenting?

S: You know, handwriting, yeah, if it would be recognition, yes, I would love it. I have never tried with a tablet, I thought of it but I’ve never tried. I have a very good looking handwriting but not very easy readable [showing a piece of paper with her handwriting] so people can’t use it, I can’t pass on my handwriting because it’s not easy for others. What I usually do at conferences I tend to scribble a lot and then I don’t have time to, the plan is to come home and blog. But because I don’t have the time, I see people taking notes on mobile phones and, ahm, there is note taking and if I’m in a meeting here and I have to make two or three notes, it’s fine, but otherwise, if it’s for 8 hours in a conference I’d do the handwriting in a notebook. One thing is that I don’t have yet a system for taking these notes and transferring them to the computer, I don’t know what I’d do with them. This idea of mine is that every time I have something I want to share or preserve I would blog it. When I used to blog
frequently this was my repository, I was going back and I had names and I had links and I had all this, so my mind still hopes that one day I will find the time and get back to the habit, because, I was looking the other day the museum conference, there’re so many links, some of them I google them from my phone straight away, it adds to presentations if you can go on-line and look. And I don’t like to carry my laptop anymore because that’s a drag, if you’re at a conference you’re carrying that and you’re always preoccupied if I had enough battery, if I can sit close to the power socket and then what do I do with it during the break. The phone is very easy to put in the pocket and go out with it and its multi-functional still I can’t take notes quickly enough and reliably enough, what annoys me is that this automatic so predictive spelling drives me mad. Sometimes I send messages that contain odd words in the middle of a phrase because I don’t check enough. So no, I don’t want my notes to be perverted. It would be ideal, if I think about, I don’t know maybe I’ll try an iPad, because it would allow me to take notes see what I’m doing better because this small screen is a problem. Take notes and then put them as a draft straight away or something like this and going back… Another thing that I noticed at public events when you try to take notes sometimes you want to put in your own opinion, if you have a laptop and it’s open everybody behind you sees what you’re doing. With an iPad, again, it’s not the same, it’s on the table but the person sitting next you might look over your shoulder and see whatever you’re scribbling. With the phone you don’t have this problem. So from this point of view, it’s more personal, you know, it’s not like I’m afraid that someone will see what I’m doing, what I’m googling, what I’m twittering. But I was very aware at a conference in Galway last year in October. We were in a lecture hall that was very steep, you know, and I was aware that five, six people behind me could see straight into my laptop, because I could see other people’s screens and you could see to some extent even what they write.

F: Now something that I found really interesting was when you’re reporting you were working and then you heard somebody talking about… so, how that happened?

S: Well, I was sitting on the table and doing marking and these people started talking about Facebook, about a new viral thing that, it was sort of a virus that was spreading and there was a young lady who was obviously not a computer science
person but she was knowledgeable about Facebook and she started telling the others how this happens in very layman language, so it wasn’t everything to do with [mobile phone rings – 8.56], so I stopped working and I started taking about the incident because I found it very interesting how people can educate other people about Facebook and the dangers and what to do and what not to do, you know, and how you can propagate good knowledge in a very simple way, you know. She obviously got even, I don’t know, either on-line or someone explained it to her because she was quite knowledgeable about what happened worldwide with that scammer, you know, and she was telling the story. So I stopped and started taking notes and, it’s an interesting thing to see what is the perception of Facebook as a phenomenon in another country. And you might be aware that [my home country] is behind. When I started blogging I couldn’t find any other [national] blogger; there was a lady in Berlin blogging in [my mother language] but that was all. So they came up to speed very quickly with Facebook and Twitter and all these, so once the blogs were there and the social media uptake us, taking off, everybody is up-to-date now, so, you know. You can discover that older people, so even older than my generation are on Facebook and that interested me but it was obviously these young people are going to face [? 10.43 – inaudible]. There were four or six around the table. It was interesting episode.

F: OK, interesting, it was very interesting to hear that. But now talking about the Chromebook that we were talking before, then you think that this is more a marketing strategy, than...

S: Yes.

F: OK. But what do you think of that idea that you have your platform accessible in different devices, because you’re saying, OK this is what the iPad does or the mobile phone does, but in that case you have the same platform. If you log in here you have the same applications, the same documents and so on and so forth...

S: Yes, the synchronization, that is one thing, but, you know, I’m very close to that, because I use Google Docs, lots of my documents are on-line, if they’re not in Google Docs they’re in my e-mail, so I became quite aware that, I have a PC laptop at home and I had a PC Desktop here and I have bought an iMac, so this one and a PowerBook
at home, so I was slowly transferring to the Mac and I was very afraid because I was working on different devices on different things that I'm gonna miss something and one day I decided “this is today”, about a week ago, I have everything on this [showing external HD], I transferred into this desktop [showing iMac] and I'm fine and I decided not to copy all my old files here [showing the iMac], I have a backup of course, because I'm trying to start fresh, you know, the other PC desktop, [the technician] has copied everything from the previous one on it, so it was an exact copy, a mirror, but now I had the opportunity to start fresh and to copy only the ones I need and access extern support when I need it, you know, and I have this [the external HD] with me. Yeah, but most what I have is online because it was either shared by e-mail or I keep them as online documents so, I won't think there'll be a major difference, but yes, it's a nice idea, to have... On the other side there's a danger, everything you put out in the public area, you know, they hack private folds, the documents that are in Google docs or even in email, so having them in all platforms, I want to have files that reside on one hard drive, you know, keep them encrypted or take some measures of security. Nothing is safe, if you are a smart hacker you can hack into anything, once you have it in a computer that is connected to the internet or you're bring USB keys or, you can't protect it 100% but you still can take some measures and I wouldn't put everything out in the public. You know what struck me with that Chromebook, the Eee PC, so it was probably three of four years back when they appeared and they were browsing devices without a hard drive without, so you had to use an external drive if you wanted to any storage and this is the same idea, they took a bit of time to boot you know, but it's the same, the browser window being open all of the time and this is what you are doing with that, you know, there is no Word processing now unless they were on-line.

F: So they are recycling...

S: Yes, of course. It's smart because it serves a need like I think any person you're talking to is going to tell you it takes a long time for a computer to wake up every time you need it and, yeah, it would be nice to have it pronto, but I put this to sleep and, you now that it still that. So I don't see what is the revolutionary idea in that, so we have bits and pieces, yes, that would bring it together in a way, so several good ideas and, buying a different computer for that, I don't think it's a matter of
hardware, you know, there’s hardware and software and there’s the way you organize your own stuff.

**F:** OK. So let me ask you, what was the reason for you just to say “OK, I’m done with the PC and I’m moving everything to the new…”?

**S:** You know, the printer. So I was stuck with the PC because I couldn’t print from the Mac, and I asked [name] to set me up and there was something wrong with the network, so that was the only thing that was keeping me. At home, of course, there’s one thing, this morning I was trying to look up a server in [the department] and I had it in my mail, I had the link, and it tends to work from the PC. So I tried to access it from the Mac and I didn’t know how, how do you get command line on a Mac, then I googled it, I found it, but it still didn’t work so I said “O my God, I can’t do this because I don’t have a PC” and I said “Wait a minute, it’s full of PCs in the other room”, I went to the printer computer and tried to access it and I got there, it asked me for a password, but it wouldn’t let me pass, so it’s probably not accessible, not shared anymore, it was about a final year project that was at one time shared with everybody, but probably the need is gone now and they closed it again. So, yeah, I had a bit of it and it’s a learning curve, you have to learn, I can do, I have Office on it, you know, and I can do most of the things, there’re still differences and, yeah, I thought of bringing here my old PC laptop, just in case, to have it, if I can’t access. UL is not a very Mac friendly place so sometimes when there is a broadcast or there’s something like this they don’t care about Mac users. So it would be handy to have but as I said first, there’s plenty of them in the [laboratory] so I can use another computer.

**F:** Alright, alright. Now talking about working and anytime/anywhere, so that was one of our main topics during the first interview and also one of the main things when I was observing you, my question is, alright, we have this anytime/anywhere idea, you know, and you told me that you don’t mind actually to engage with work, for instance when you’re in a family trip or something like that, so I was kind of thinking what do you get in exchange?

**S:** By not switching off completely. Well, I would worry to be honest, I would worry that something is going on, I like to be in touch. Now it happened that I took a holiday and I had no connection and I stayed for one week off, but you know, it’s
much easier to plan for work if you’re working a little bit on the road, so if something is due on a specific date and you know you’re gonna be sitting on a plane or on a bus, it’s so easy to filling your time by reading that and then when you have to write the report or the review you’re doing it at your desk. So I think, I’m not necessarily creating free time but, yeah, being able to attend to family problems if there’s an emergency, you now, it’s a given and taken, I don’t think it’s a one way only. Sometimes it happens during working hours, I have to be in touch with family and help with specific tasks like my daughter is asking me about computer stuff so I can take ten minutes and give some information to her or, you know, and, I don’t know, I have never asked myself about what would I loose or what would I gain. It’s just that I like to be in touch and I like to know what is going on. Of course you don’t miss anything if you are offline for a week or a month, but the world is so going on and you can’t, anyhow you can’t read everything that crosses your mail, Facebook, Twitter, so on and so forth. You read and you filter, so my Gmail has become sort of dump, I delete more than half of the e-mails I get, because there are so many mailing lists and I read the subject and I’m not interested so it’s gone without opening it.

F: Would that have anything to do with something to do with sense of control of your work and life?

S: I think I’m in control, I don’t think that my, I don’t have this dream of zero e-mail or anything, no target like this. The only thing is, I want to be able to react when I’m away, you know, when I go to a meeting in the other building and I have the phone with me I keep looking up e-mails and if someone requires a yes or no answer I would give it. Sometimes it is necessary to coordinate with people, sometimes you know you’re away, so a student wrote to me that he needs a letter to confirm that he is a student in this course and he reminded me reminded me he asked for the same last year and last year I was in [a foreign continental Europe country] so I had to ask [a colleague] can you write a letter for this guy because he needs it this week and I wasn’t coming back in a month, you know, and I couldn’t sign him a letter, OK, I could have signed it and sent him via mail but he needed a UL heading paper and all this stuff. Yes, sometimes it’s useful to bounce tasks and ask some other people to replace you, sometimes it is useful to say no I can’t do that, I’m travelling, you know, but at least I read the e-mail and I’m telling you, I’ve learnt this from a Global Software
Development environment, “any answer is better than no answer”. And if you tell people don’t expect me to do this OK, they know they are going to take it somewhere else. So you’re sick, if you’re well enough to write two words saying I’m sick, in case you don’t have an automated responder to put on, that is fine, people will understand.

F: I’m asking that because one of the themes that are emerging from the data is to do with trade-offs. So I was kind of wondering what are the trade-offs of this access anytime/anywhere.

S: If you know, some people, you found in situations I don’t want hear about work. To me it’s not that distinctively divided, this is work and this is what need for fun and I’m going to the hacker space now and this is not work, it has a connection to my work because it interests me from this point of view, so to me there’s not, the fact that I gave up something important from my life, it happens if I don’t go on-line, you know. Over a weekend I have things to do, I’m going away, or I’m having a good time, then I don’t check my e-mail and I hope people will understand this, but you can see students are expecting you to be online on Saturday at 11 o’clock and give them a prompt answer, because I’ve probably created this expectation being on-line a lot, you know. I was looking at [a big company] pages your preferred method of contact and some people list instant messaging and some people list email and some people list phone. People get to know you and they get to know how to get hold of you, and they know that if you don’t answer your instant messenger you’re not there, OK, so they’d try and get you, or now with mobile phones, you expect that person to read their mail while they’re on the road, you know, and you build this kind of expectations, some people have rules and you get to learn about these rules, like this person never reads their e-mail when they’re on vacation. I don’t think it’s impeding on my life in anyway, I don’t think it’s making it any better, I think the way of living is just evolving. A few years before you couldn’t imagine being on-line when you are travelling, now you can, so there’s an affordance and we are taking advantage of it, if it does negative things to us, I don’t know, I don’t have the feeling. Yes, I was on holidays in Portugal and my son wrote me that his laptop was stolen, and I wished I didn’t have open that e-mail, you know, but that’s life, you can’t hide, sooner or later you find out and you have to cope with bad news and with the good ones.
F: Actually the Internet seems to be a very important resource for you, considering your work and life and I was just kind of wondering can you imagine your life nowadays without the internet? How would it be different?

S: No, I can’t really imagine, I’m dreading you know, you probably don’t know that there was a film by [director’s name] and it was a time in the future when all books were banned and people became books, so they were reading a book and learning it by heart and reciting it to anyone who... So I ask myself on several occasions what would we do if one day we wouldn’t have electricity, you know, because that’s, I’m not saying the Internet might disappear, but it’s based on power, so if we have a power outage in a region that takes more than twenty four hours, everything, just look at what happens when UL mailing server doesn’t work, we’re like headless chicken, nobody finds out anything, we have phones, we have internet in our phones and we don’t know how to rely on the phones anymore because my phonebook is in my computer and if I don’t have access to it I don’t know any phone numbers, you know, we’re so dependable, but we created this, because it’s handy, because I can access it from anywhere on any device, if I’m not next to my desk I can go into a library or a lab and look for the information I need. It’s so taken for granted, it’s like the air that we breathe and I doubt I could do any work. First of all, my domain of interest is social media, so without the internet social media would be gone, so I would have to reconsider what I would look at gardening or something else, studying gardening practices (said humorously) and write ethnographic studies, it’s so ingrained and, someone was laughing and I don’t know on what occasion I said, I think it was in an [event of our local association], that I need I Google implant, you know, because when I don’t know something I’m not turning on to the person next to me, I’m googling it, so this is the tendency, the reflex of looking for the word on Google. I’m trying to rent a new house and I found a word in the leasing agreement “perambulator” that I had never heard in my life, so I’m not allowed to leave a perambulator in the way at the exit of the house. So what the hell is this? (said humorously) So of course I went online to find out that it’s a vehicle on the way something like a pram can be, but it’s funny and, you know, in the middle of the night when nobody is around you can still access all of this resources and I don’t think it
makes us less sociable because we’re still discussing and sharing a lot, but, yeah, definitely change the way of reacting.

**F:** Which ways do you think social interactions are changing?

**S:** They’re augmented, you know, like we were at a garden party at the weekend and everybody was talking about some news that was on-line about the guy whose rabbit was stranded at Liffey river and then [name] went on searching and she said he’s getting an award for jumping into the Liffey so this continued the discussion we had at the party. When you’re at a party people are taking pictures which in the next day are on Facebook, people are commenting, “Oh my God, I look awful, I can believe you posted this picture of mine” and there’s, you know, you remember the good time. So I would say it gives another layer to our interactions and as you know I have family that’s far away in [my home country] when you came I was just checking, my son is in the Austrian mountains, with no phone connection and my daughter as well, and thirty minutes ago he liked something on Facebook, so obviously he managed to have access to the Internet, so that means he’s alive and well, you know, and it was his birthday yesterday and I wished him happy birthday on-line on Facebook because everybody else did so.

**F:** OK, OK, that’s interesting. I was kind of, just out of curiosity you reported on your diary that at 9.30 in the night you were coming back from Dublin to Limerick and then you were in a bus with Wi-Fi, but then the batteries of your devices were flat. So would you have the strength to engage with work that time in the night, coming back in a bus to Limerick?

**S:** Yeah, yeah, why not? So what I’m doing, I noticed that if I read a message on my mobile phone I tend to forget it until the next day and when I go online on the iMac I see it’s red so it doesn’t come to my attention so what I’m trying to do now, if I read something in the middle of the night I make a note, “this is to, I have to answer to this”. Now, sometimes I use the Google tasks, sometimes I just make a note in a notebook or a post-it, but that’s on the table at the morning that I have to attend to this and that, you know, sometimes there are things people are sending me and they are waiting for me to do some work or get an answer and if it’s short I can reply, so I can do e-mail. The [master programme] students are arranging meeting, of course if
they say when can I come tomorrow I would answer in the middle of the night because they would get that during the morning and we can coordinate, yeah. So yes, I wouldn’t mind doing a bit of work, if you call it work, it’s just checking e-mail and checking what’s going on, maybe bookmarking links or something to go back. And at a [local conference I organised] I asked the panel like question, if you were in the position to ask researchers to look for something to work on a solution for the next five years what would be it and I said I would like teleportation and one of the guys said a thing, when you enter a meeting room to be able to throw your presentation to the wall by pointing your mobile device and not deal with all these cables and computers and the projector doesn’t work, that was one of them and every time, everywhere or anytime anywhere power sockets and Wi-Fi. If you could think of a solution that would give you power in your pocket and Wi-Fi in your pocket that would be it, you know. A thing that is of the size of a mobile phone that I can take with me and go anywhere and if I’m out of power, the idea is a second battery while I need a power resource that would work with anything, you know, if this [showing her mobile phone] gets flat I can charge it and I thought it was interesting what we are missing.

F: Actually I was going to ask you about the idea of having the devices connected wirelessly, you know, so for instance if you have things on your mobile you can project it for instance in your monitor without needing to connect it, so, something like that. So in which ways do you think that would be useful for you in the context of working across different locations?

S: I would say something like Bluetooth or wireless connection to be among the devices would be OK, you don’t have to have other gadgets or stuff just make them talk to each other and there is stuff like, you know, the Mac family has its own, but they are not compatible to each other and they’re not compatible to audio-visual equipment in the rooms. See how much hassle it is if you bring in the speakers. I had this friend of [name]’s, a Canadian guy who came in with his laptop and wanted to give a presentation that contained videos and his laptop output wouldn’t work. The room didn’t have a projector it had, you know, an LCD screen, which for a talk where he was trying to demonstrate working prototypes and stuff like this is not good enough, so we needed to bring in a screen another laptop the whole thing and it took
us an hour, you had to prepare well in advance and this is not always possible, if you have a conference where people are changing, the speakers are changing every twenty minutes you have to be very quick and a 3D Camp it happened with [name]’s presentation, it went wrong and we couldn’t project it and she was very good, she started talking and she has a presence there, she knows her stuff, but it was so embarrassing, everything went on until [name] came on and she was very emotional, you know, and she was afraid that it was going to go wrong, she said it all the day, and then it went wrong, you know, and it is such a pity when people are putting serious work into presentation, but still the technology is not there, there are all kinds of interest but I would like every possible device to talk to every other possible device without having, you know, I’m going online I can find the other device I want to send 3 files, if I’m identified as being the same person on all of this it shouldn’t ask me if I approve again because this is what happens with Bluetooth, you have to open your phone and I have to open my phone and I have to send you and you have to allow me, you know, for 2 pictures it’s not worth it, I put them on Facebook and everybody can see them, you know, that’s the thing. It’s too cumbersome.

F: OK, OK, interesting. Now talking about, for instance, that idea of shared screens, in which ways do you think that could help collaboration when you’re working in a collaborative context, doing some brainstorming?

S: Do you mean shared screen when we are working at distance?

F: No, at the same place.

S: Do you mean having something like a touch table or...

F: No, having something like, I’m in my laptop, you’re in your laptop, but, for instance, we can pair both and if you want just to change something or show something in my laptop or in my screen you would...

S: Yeah, it could be interesting, although, again, how do you make the connection. Technically it wouldn’t be too difficult, yeah, if you could make it very simply, yes, because it’s a matter of screens. If we’re no watching the same screen, it could be useful.
**F:** Talking about mediation, in the first interview we discussed a little bit how computers technologies can mediate work in a remote context and then, when I start analyzing the data, this kind of mediation in face-to-face interactions as well, came kind of strong, so I would like to hear from you how do you see or how do you use technologies to mediate face-to-face interactions as well?

**S:** Oh, let me show you something on my screen [pointing her mobile], so, I would say, we are using on-line resources all the time, if I had a student coming, then this would be turned like that [turning her desktop PC towards me] and I would be looking at something and they would see what I'm doing and sometimes they want to tell me something and I pass them the keyboard and the mouse, 'work on and show me', so I think it's vital because these are the artefacts, we don't have everything printed, it would be a waste to print every draft so we want to talk, I'll show you... The students I have in the [course] class, [name]'s research draft, this guy, I've been working on his progress, he said 'I'm not coming in this week because I saw you on Friday and it's too early, but this is what I'm doing and you can see on what I'm working on and what is the progress I've made', you know, and I can check this, and I have the other girl who...

**F:** ... This is going on in your Google Docs...

**S:** Yep... [name], when she comes in, for example, last year I asked them to report back what they were doing every week, [name] had a similar document, because, from today, until next week, they would forget what we said, and I forget what they said, so, it's not good enough, so it would, [name], I have different methods with different students, so she's writing a diary about her own work because her approach is auto-ethnographic, and then she has a table of content here that we copied from the draft she sent me and we corrected it and she started the lit review, so, you know, it's good to keep track, and when she comes in a say, 'why did you say this?', and I can intervene sometimes, it's shared with me so I can write my comments straight away, and I do, sometimes when I see them to slow down and they're not to do anything then I tend to go in and say 'where's this left', so I think it's a good method to make them accountable and...
F: OK. Then in which situations would you print out something for face-to-face meetings? I mean, instead of using the digital...

S: When I want to scribble, scribble and scribble. I read a lot in my Kindle or even on the phone, but if I not even, I used to print a lot of papers to go outside and read in the summer, but with the Kindle it’s not necessary anymore. What I would print is stuff that I want to write on, this is not really annotated [showing a piece of paper], but, this is a review for a paper and this is the review form of course I have it on-line, but I’ve been moving this around with me for the last three weeks and now I’m asking the lady ‘is it still needed?’, I don’t have any, but there are a few comments, this is a thing I don’t have time to do, so I have to have a reminder with me all the time, it didn’t have a strict deadline, so I tend postpone it forever, so if I carry it with me it’s kind of, listen, you have to do this at some point, you know, and sitting down, oh yeah, I’ll read this, but usually I would print a draft that I want to give it back to the students and I want to make it obvious, I’ll show you, because while I’m reading I’m making comments that if it’s not meant to go straight back as a document I usually give them back to them so that they can [showing a report she reviewed], this guy had only typos, the reasons I printed them all although I had the copies in the Kindle, because I wanted to give them back to them as a paper artefact with the small corrections, even typos and, you know, stuff that... this is an artefact that I share with them when they come to talk to me and then, of course I completely forgot since I read it, because I read so many, and I sit down with them and say ‘see, this is wrong and you have to fix this, and fix that’, it’s a mediation thing. Usually when I would have bigger group so, and I have to read a lot of papers, not when I follow someone’s work very close and I can see everywhere, but it’s a final outcome and it’s graded or it’s reviewed, then I will scribble on that and use it in that conversation, of course you can do it on the screen but I’m kind of, yeah, I probably do more and more on the screen as time goes by because it’s a pity, look around [there are piles of papers], I brought all these papers from home, they were under a table, I killed so many trees, I feel so guilty [said humorously], but something that I have in my house are these notebooks [showing a small paper notebook], they have date of beginning and date of ending and they have numbers and I have a shelf in the library and it’s very interesting to go back and see what you were doing last year or remember what a
student presented or, I kind of like paper and they are brief notes, but I like keeping them, and for the research they were very useful so when I was in [company name] doing work, that was the main, I had a lot of notes in the computer but there were days the diary was there.

**F:** Talking about the notes, you could do that using mark-up functionality in Word, but would that have any different interpretation if you do that...

**S:** I doubt; I just didn’t get into the habit. It’s perfectly possible. See, I printed this [showing some printed stuff] and I hated myself when I saw so many pages came out because a lot is unuseful, this is the academic workload and there are chapters that I have a lot of stuff and there’re chapters where I don’t have anything and I should have taken that out. Now, why I printed it, I had to look at information that is not in the computer, I had to go around and look for papers and write stuff here. So that was why I printed it, I’m gonna write the paper and then sit down and, I have to collect information from several sources and I use the document to bring them together and I will put it back to the computer, so that’s the idea. That’s why.

**F:** Doing that wouldn’t mean doing the same work twice?

**S:** When I go to a shelf I don’t have my computer to take with me, so that was the idea. It is twice, some of the stuff I need for here might not be here, might be at home, so I need to take the document. I have done it on-line but still, I marked everything that needs to be done and now I know that if I deal with each point and I write it back to the document when I sit in front of the computer this is it, it’s done.

**F:** OK, now just heading for the end of this interview, talking about Google Docs, you showed me Google Docs, how does Google Docs do when it comes to you know, editing the same document at the same time with other people collaboratively?

**S:** It works.

**F:** It works?

**S:** It works and you will see the other person, I think this is the [interacting with her Google Docs], I think this is my daughter’s application, and, she’s an artist, she
doesn’t want to use it, ‘Google Docs, what’s that? You’re scaring me’ [laughing] and I said ‘it’s simple, it’s nothing new’. So once she wrote I started looking through it and I said ‘yeah, this is nice, this is not’ and I perceive her cursor, so if you try to make changes in the same place at the same time it gets annoyed. It tells you, someone else is trying to modify the document. But if you are in this paragraph, and the other person is here [showing another location in the document], it’s very useful. And what I found interesting with this is if you send it to me and I suggest some changes and she could see what I was doing, so she could see the document changing in front of her, yeah, I don’t know, I think it’s good for collaboration. I worked on a workshop proposal with a [foreign] guy, it doesn’t have any problem, so it’s perfectly OK, technically speaking all you need is the other person to be a knowledgeable about it and use it. My daughter did a translation for someone and I said ‘share the document with him’. ‘Oh, no [mimicking surprise reaction]. He wouldn’t know how’. So I said ‘what’s so difficult? You’ll send him the link’ and as you see there’s a mixture of work and private stuff and every, I have categories here, and I should put them back, they kind of self-select because they put the more recent ones on top, so naturally you’ll see what you need to see.

F: And how is the process of writing collaboratively over e-mail different from using Google Docs?

S: It depends who is the person who you’re writing with. So, if you, you can make the decision, you’re writing this and I’m writing that section and them we will put them together, e-mail works. But if, you get to a point where you need to read the other person’s part and make changes and vice-versa. It’s not so good for tracking changes, because if you make changes, I think you can mark the changes here as well [making reference to Google Docs]. There’s a who-did-what [interacting with Google Docs]. OK [difficult to find the functionality], but it has a thing that makes the people use different colours [still interacting with Google Docs]. Can’t remember… Revision history… OK [found the functionality]… So who-did-what and who work on the document and this is when we work together and you can restore the old version if you’re unhappy about. I think it’s reliable enough. Now, it depends, you know, you have to use the smallest common denominator, so if people are comfortable with e-mail, use that, my daughter is my daughter and I can convince her of things that I
think are good for her, but if I work with a professor. This guy in {a continental Europe country} I worked on a special issue, he's a catastrophe, he doesn't do shared calendars, he doesn't do anything, e-mail, and when he wants to avoid you he doesn't answer e-mail.

F: But would that be a strategy just to try to set boundaries or...

S: It once happened to me, I sent him two e-mails within the distance of three minutes, and one was about work, you know, about the special issue, and another one was about meeting up at this event and he answered me to that one about the event straight away and it was night, night time, and he didn’t answer to the other one for days and I knew he was like our professor, he was avoiding, you know, stuff I don’t want know about, but you know the person is on-line, you know, you know straight away they’re on-line, they’re reading there e-mail, you see them on Skype, you know, they don’t want to deal with this, OK, you have to find better ways to convince them and then you send them something that is read made and all they have to do is yes-or-no.

F: Alright. My last question, actually, is about using similar tools in different ways. When you were talking about social media and, you know, social networks, and we were talking about using Twitter and also Facebook and then you mentioned something about that on Facebook you only accept people who you know, but in Twitter it seemed to me that some people that...

S: Well, you have to look at it from this point of view: Twitter is an asymmetric tool. So there are people who are following you and you’re not following them, you know. And you get this lot of spam from people who are literally sending you something, who started following you with the hope you’re going to follow back automatically and then they are going to send you their stuff. This is how they hope to make it work. I'm followed by a lot of students from other institutes. I usually follow back our students and if someone writes something interesting on Twitter I will follow back. But it’s by definition asymmetric, OK, this is why I’m annoyed with this Google Plus, because they don’t know what they are doing, they want to propose a new Facebook and what happens is I’m being followed by people that I haven’t heard of, I go to their profiles, I get twenty, thirty follows a day, now, because it just
started. What will happen is, your profile is public, so through Google Plus anyone will be able to spam you, even if they don’t know your e-mail address. You can set the changes so that you’re no visible to the whole world, but it’s a matter of time until the spammers will realize how they can use this for their advantage and there will be a lot of people who don’t change the settings. What annoys me know is that I get these people who follow me and add me as a friend in their circles and I have no clue who they are. They might be friends of friends and the whole idea of circles is not clear. I’ve tried to add friends of people who I’m interested in, but anything I share goes to the whole world. So why would I need this? And it’s so fragmented. It’s a sort of Facebook without having the advantages of Facebook that you talk to your friends and you know them and you know who’s listening, OK, so you go out in the wild and do the same thing, and share your pictures and get tagged on the whole thing, in the wild, why? I’m not interested so at the moment I think Google just is testing the waters as they did with Wave. We don’t know what to do with this, but let’s give it to the people to try it out and figure it out. Google wave went away, Google Buzz went away, they don’t know what they are doing, you know, and it’s wonderful technology but, are the millions and millions of Facebook users going to move to Google Plus, I doubt.

**F:** And how about Twitter, because it’s kind of same idea...

**S:** I’m sharing different things, so when I go to Twitter and say something, I know anyone in the world can listen, OK, so I’m not telling them what I ate today, unless I have an interest in making a point on something. I don’t, I sometimes twit about something interesting things I read and if I go to a conference or to an event I’ll try to twit you know, every presentation or important ideas, but in between, to tell my friends that I have a flu it’s Facebook. If I would know that someone who is watching, but Twitter is so big nowadays that nobody is watching it anymore, you know, unless you use a tool that specific, that you sort out the categories and you see your close friends on one column. The way I use this is when I have five minutes I go through to pages and I find an interesting link and then I click on it, OK, but I can’t read everything and I’m not interested in reading everything. What happens is, oh, I haven’t heard from [name] for a while, let’s see what he is doing and I see three twits here and that’s it, OK, I know he’s alive and that he twitted three hours ago and
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yesterday and yesterday, so OK. I wouldn’t look for [name], what he’s doing because this guy has people hired to twit for him and I know and he confessed and he has 93.000 twits and he’s followed by the whole world and he is following the whole world, so this is a gimmick, this is not a real person.

F: So, OK, then, I think I have covered everything I have on my list for today. Would like to add anything else?

S: To be honest I can’t remember what you spoke about shared screens. Was that in our previous interview or we were talking in the...

F: No, no. Actually this came out from one of my observations. It seemed that the guy had a need to modify something on his friends screen at the same time they were working, because of that it caught my attention and I was kind of...

S: Yeah, I don’t think for sure that it would be worth it design such a tool, because during the, for example, the sprint of [organisation name] here, there were two developers sitting next to each other with two laptops and I was sitting behind them, watching what they were doing. They were working on code and one of them was trying something, they were discussing the idea and one of them was actually trying it out and submitting the code and running it, and they so it was not working and the other guy tried something else and submitted and tested it and they were looking at each other screen and getting inspiration but were never tempted to do this, you know, so I’d say it’s limited utility now. One of our students, [name], she was working on design a touch table for people who work with web design to try several designs, to move things from a place to another and change colours and do things, you know, and there’s an obvious need, so she says in the office this person is sitting next to me and asks me to change the colour and do this and do that and then they’re grabbing the mouse, so that’s why she thinks that it would be better to do it on a table where both could see what they’re doing and they can change it back and I think it makes sense but, what would I do, what kind of changes would I do on your screen? Would it be words, why don’t they share the same document, would it be a drawing, yeah, we can share the same whiteboard, so there are software tools that allow us to, yeah, web design tools that allows us to share.
F: And in the case we have just one device, just a screen, you know, and we are working, it would be the same notion as this shared thing but, you’re with your laptop and I’m kind of working with you and, you know, [to have an] additional keyboard or mouse or something like that?

S: There was a very interesting presentation of Microsoft India on ECSCW in 2009, a Japanese guy who is the head of the India research of Microsoft, he went to schools to see what were their needs and he noticed that they had a computer for every six kids and there was one guy who usually was outspoken who was taking the keyboard and the mouse and this was it and the others were lurking. So they came up with a thing for six mice, you know, it’s an interface that you plug into your computer and there’re six mice with different colour on the screen so the kids could do collaboratively work on stuff. Yeah, that was an interesting idea and it served a purpose and, you know, they were solving different parts of the problems.

F: ECSCW...

S: 09, the keynote.

F: I should take a look at this...

S: Yes. You can find his name and then Google it, it’s Microsoft India Research. So, yeah, a pointing device whatever it is I think you can use a modified Wii or, yeah, would you need to change words or all you need is a pointer. So that’s the question. If you only need a pointing device to work together, like, please change here, or do this, then it’s one thing. If you need two keyboards actually that’s another thing, but I’m sure it can be done. What I would like to see done is to, for example, you’re coming with your laptop and we have your keyboard and I want to share my screen wirelessly with you, so we are in the same place and this is the master and instead of putting it on the big screen I share it with your laptop and it should be wireless, you know, and then we can both work on it, so I see what you’re doing in your and I can, you know, usually one is a clone and it’s just a display and one is the active one. The change is, can you change roles, but yeah, it might be useful and I’m sure there’s stuff, so physically you can connect another video terminal and have the same image on both, the only problem is, it’s an image. I think more and more computer devices
become the medium for the artefact that they’re sharing, so printing out less and less and you’re sharing stuff here. Before it wasn’t easy to come to your, or to sit in a meeting and show you something, but now it’s so easy with this mobile devices that you wouldn’t print stuff.

**F:** So it’s becoming a trending and this will save the trees [said humorously]

**S:** And I think paper is still needed, I was cleaning my desk and I was putting papers on the side because they need shredding, every time we have a meeting for grading the head of department bring enough copies for everyone and she read names and it’s difficult to follow and sometimes I ask myself why the hell she does not put it on the screen and point out this guy is important because this and that and we are looking at one at the time so I don’t need to go back and forth, and I have piles only for this year and, this is my pile and I tend to steal them, she takes them back, but I tend to steal them because it’s easier when students come in to see the whole situation and not having to go to his records. Of course there’s stuff online.

**F:** Alright, so, I think this covers everything. So I would like to thank you once again, very, very much for all the valuable and reach data. Hopefully soon you’ll be able to see something coming from this.

[END OF INTERVIEW]
APPENDIX III – SAMPLE OF SUMMARISED DATA SET
SUMMARY OF SHANNON’S INTERVIEW

• In secondary school hated the idea of teaching
• Got to like it after getting involved with teaching due to the demands of the job market early in the career
• Went for a PhD to get a permanent position in a new private university that invited her to teach
• Wanted to do research but was working in a private young university were funding was scarce
• Applied for a funding body and got an opportunity in a knowledge transfer project in a foreign country where she would have to stay 9 months in an institute, working and learning from them and then move to another institute and stay another 9 months transferring the knowledge and skills she previously get. It was a Postdoc fellowship
• After the fellowship she was offered a job but preferred to go back to her country
• When she was ready to go back to her country here job position no long existed because her university didn’t get the necessary accreditation to continue with the course
• Didn’t want to go back to programming, so started looking for another Postdoc position
• Googling it she found a position in [continental Europe country] and another in Limerick. Limerick offered her the position first and she decided to accept after coming for an interview and falling in love with the place
• Felt that in Limerick she would have a much more open environment to develop and discuss her research
• Language issues ➔ concerned about losing her English, the language people publish in
• Resisted to get her first mobile because of stories about radiation
• Feel lost if not connected to the Internet
• Basic functionality of a mobile phone is access to the internet
• In order to promote the course she is director she goes to all events around the country
• Internet connection is one of the main criteria in the process of choosing a place against another
• Time constraint is what makes activities bonded to places
• In favour of asynchronous teaching interactions
• Self-defined earlier adopter
• Postponed getting an Android because of the uncertainty whether she should get an iPhone
Decided in favour of Android due to project activities with students. Want to get students involved with development and the iPhone community is more closed and several barriers have to be overcome.

Usability of technologies has a big impact on the decision about integrating a piece of technology.

Doesn’t like the feeling of not being in control over the content published on the web.

Cherishes the fact that one can work from anywhere.

Three laptops – “the old, old one; the old one and the shiny Mac”

Using the Android more and more for different things.

Using Twitter for professional reasons.

Facebook is mixed.

Same technologies used for both personal and professional lives.

Want to have constant access to Google to search for further information on something whenever necessary.

When the research aspect of the work is done she would switch off to write.

Beneficial to be in places where other creative people work.

Human interaction with people from his field or, sometimes, from other fields, are very useful for clarifying her ideas.

Face-to-face is not essential for collaborative work when initial contact was already established.

Collaboration improves as time goes by and people get to know each other, even if this happen over mediated interactions.

People can share values over mediated interactions and even they haven’t met personally they can get the sense they know the other person very well.

Trying to completely disconnect professional from personal life is bad and it wouldn’t work.

Social networks impact on the acceptability of mediated collaborative work.

The way people use her information on Facebook worries her. Not being in control of what is being displayed to her also annoys her.

Facebook is only for people she met personally, or people who are friend of very good friends of hers and are in the same filed as her.

LinkedIn is more open to connections to people who she has not met personally and have been doing interesting research in her field.

Sometimes use LinkedIn to recruit people, if those people are recommended by friends.

Ambient intimacy.

Meeting people and seeing things are two of the main reasons for her to go to a specific location.

Reluctant to use sync software because she doesn’t know what can be overwritten; wants to be in control.

Have a desktop and a laptop in every country.
Having multiple computers creates difficulties when need to refer back to her own work.

Mediated interaction can be problematic if one assumes the other end is working under the same environmental conditions.

Work/life boundaries severely blurred.

Don’t mind to work at home, on holidays or when travelling.

Boundaries are interesting when one burns out.

Interesting to blur the boundaries to accommodate family.

9-5 was when all work tools were in the office and you could not take a file out to work at home.

Strange to think about one point of interaction when there is ambient intelligence with computing distributed in things like the fridge and the walls.

Being a nomad means that the person will have to adjust or configure technologies to suit one’s purpose when using another person’s device.
SUMMARY OF SHANNON’S SHADOWING TRANSCRIPT

• Shadowing start at a computer lab where she is teaching a tutorial
• Coming straight from a blood test
• Uses the room infrastructure
• Resources available in the cloud (department website - wiki)
• Student whom she is working with arrives before she starts the tutorial. Quick chat with him
• Use SULIS to make weekly tests available to the students
• Everything she needs for the tutorial is on-line
• Delivers the tut from the web browser
• Opens new items in new tabs in the web browser and closes them as soon as she is done with the topic
• Discover resources on the go and use them in the tutorial
• Problem with the sound system
• Tries to log into a site and finds out her access was suspended due to long time with no access
• Tells students that used to use that tool for managing her to-dos but now uses Gmail
• Shows her personal account and how she organises her to-dos
• During the break goes on to read her e-mails on her Smartphone and tries to solve some open issues
  o Students complaining about grade
  o FYP student
  o Visitor student
  o E-mail that she has not replied yet due to lack of time
• Doesn’t know what to do to accommodate a student who missed an appointment they had and now are desperate asking for another one
• Tries to check her calendar in the Android. Issues on sync. Got the Smartphone to sync with Google calendar in the end
• Considers not to have lunch to meet the student – too much though – would collapse
• Students who are presenting after the break stay to load their presentations and test whether everything is going well
• Don’t like e-mails with attachments because it is difficult to deal with them on the Smartphone
• Shows me her kind. Still having problem to interact with it. Sometimes think she can interact with it by touch screen. Sometimes she get confused with the navigation buttons when she changes the orientation of reading from portrait to landscape
• Doing reviews for conferences from kindle
• Easy to keep it sync
• Very excited with the feature of accessing the Internet from the kindle
• Notes on paper notepad
• Interrupts student to tell about a situation that happened with her related to the presentation
• The tutorial session goes over time and there are people waiting outside
• Checks mobile as we are leaving
• Goes to the university’s farmer market to buy some vegetables. Waiting for a friend - calls to say she is already in the market
• Everybody has lunch in the laboratory’s munching table
• E-mail time after lunch. Check Outlook
• Read first lines of the messages in the reading panel and if it’s not interesting delete it
• Project with international university that she passed onto another people. Keep an eye for the future
• Contacts student working on the Facebook project. Ethical implications behind Facebook use of data
• Moves to Gmail → distribution lists – digests
• Quick look at Facebook – Nothing urgent
• E-mail from new people following her on Twitter
• Follow back someone she never met before
• Won’t do that on Facebook because it is a symmetric medium
• E-mail from supermarket distribution list
• E-mail from competing university → selling something they don’t have. Info on the web can be deceiving
• Back to Facebook and reply some posts
• Moves to Twitter and is careful not to get caught up with reading many pages
• With on-line bookmarks to keep things she wants to read after
• Last check on the e-mail 5 minutes before lecture starts
• Lock computer to be faster when she’s back
• Before we leave she gives another look at her inbox (lecture should be starting by then)
• Arrives in the lab. Students are to present; put mobile into the silence
• In between presentations checks her mobile and then goes on to interact with her Smartphone
• Updating the wiki she will use after the break
• Takes someone to another building in the interval of the lecture 20 minutes to go and come back
• After the break she goes on to talk about tools to the students
• Asking students whether they would be interested in having somebody as guest speaker
• Googles the name of the person, find his personal webpage and introduce him to the students
• Starts the lecture, uses the wiki
• Gives students a break
• Goes out to stretch the legs; take the opportunity to check her e-mails on the Smartphone
• Student comes to talk with her about FYP possibilities – will forward her to a friend who does research on the topic
• Back to e-mail on Smartphone. Guy looking for employees – bad experience with him in the past
• Back to help students with lit review. Says that will go around and spend 5 minutes with each student – take more than 15 min with the first one
• Helping students to frame their research
• Tips on how to do Google searches, how to use Wikipedia, CiteULike, etc

POSSIBLE VIGNETTES

• EU project meeting in Lithuania. Problems with immigration and acquisition of the first mobile phone
• Field work in [big IT company]
• Visit to research group in [continental Europe country]; thought it would be stable and it turned out to be very nomadic
• Finding and e-mailing bookmarks from the Smartphone
• Friend who didn’t use his real birth date on Facebook and had account locked
• Collaboration with colleague made in a conference in 2007
• [Foreign] guy who founded a company from activities they started at the university
• Starting collaboration with unknown people: Nora’s sister
• Face-to-face interview with [foreign] guy in Dublin
• Friend who moved to Minnesota and had to pay 25 dollars to access an article that she had written herself
• If people have 3 keywords the chances of finding what they need in 30 sec using Google is huge
• As things are smaller and easier to access people are more inclined to work on the road
• Indian woman hired over Skype; baby due in three months; working from home
SUMMARY OF SHANNON’S DIARY 1

- Trip to Dublin to participate in an event organised by a kind of community she has been doing research on
- Motivation was to study a phenomenon of her interest and to find out more about the demographics of its audience and its coverage
- After the event she spent the night with a family of friends
- The day after checked e-mail on her Android using her friends’ Wi-Fi connection
- She could find out about late submission of students’ report by doing that
- Checked timetable on the tram using 02 Internet connection
- Attended a workshop, took notes on paper notebook, googled some websites the speakers were making reference to on her Android, took a few pictures and tweeted about the talks
- Looked for [a person], famous inventor of [a design material] to invite her to come to give a talk in a seminar series she organises
- Hanged out around the [a particular] stand waiting for her to appear
- Chatted with her (had previously contacted her via e-mail but she couldn’t make to the seminar series), she promised to get back to her
- Was invited to compose a panel in one of the tents of the event and was prevented to take pictures, though she still tweeted some messages and sent other messages to Facebook
- Left Dublin at 9:30pm. Though bus offered Wi-Fi, batteries went flat
- Without technologies she would have missed a lot of context and the experience would have been poorer
- She could ask question to the speakers that other people from Limerick would like to make
- Following what was going on the back channel gave another dimension to the event
SUMMARY OF SHANNON’S DIARY 2

- Trip to her mother country to attend family business
- Choose to work on a day she had some spare time
- Using her laptop and the Wi-Fi connection available in the place she caught up with e-mail
- Went to UL website to access Handbook of Academic Regulations to reply a message from a prospective student
- **Dared** to bother a friend on Skype on Sunday morning to ask for clarification on the topic because the handbook didn’t answer the question she wanted
- Rearranged meeting dates and registered them on her Google calendar
- Contacted through Yahoo Messenger by a colleague with whom she was writing a paper
- Worked collaboratively with her on a draft version of the paper made available on Google Docs
- Since weather was good, went to read students reports in a café
- Overheard a conversation on a topic that interests her, tried to Google the issue using her phone using her Orange connection
- Made note on her notebook, as she hadn’t had Delicious installed on her Android; maybe use it in a introductory lecture on a module she teaches
- Shared a picture with the research on Facebook and mentioned him to draw his attention
- Without technologies she wouldn’t be able to work outside the office and reading activities would have to be done on printed copies that she would have to carry on her luggage
SUMMARY OF SHANNON’S FOLLOW-UP INTERVIEW

• Loves the kindle. Great not to have to wait a book arrive to start reading it (p.1)
• Struggled to get used to the commenting tool, but it was OK to explore it since she had the time (p.1)
• Learning something when one doesn’t have the time can be frustrating (p.1)
• Handwriting recognition would be good; good looking handwriting but not very easy readable (p.2)
• Notes on mobile are OK if 2 or 3 notes, but more than that she tends to handwriting. And after that she doesn’t have the time to type it and blog about it. Handwriting recognition would be great (p.2)
• Doesn’t like carrying the laptop anymore because it’s a drag and you’re always preoccupied if one has enough battery (p.2)
• Predictive text annoys her; messages perverted (p.2)
• Concerned about others seeing what she is typing on her laptop; with the phone that problem doesn’t exist (p.2)
• Very close to Chromebook concept with Google Docs and e-mail (p.3)
• Aware about security issues and concerned about privacy settings (p.3)
• Nothing is safe from smart hackers (p.3)
• Eee PC in the past much like Chromebook (p.3)
• There are files she wants to keep in a local hard driver (p.3)
• Nice to have computer running pronto; Chromebook promises that; can have similar effect by putting it to sleep (p.4)
• Don’t see anything revolutionary in Chromebook (p.4)
• Stuck with the PC because couldn’t print from the Mac; then realised that in the lab there are many PCs that she could use in case problems continued (p.4)
• Other problem would be access to some resources from home; they would be accessible via PC but not via Mac (p.4)
• Access to resoure that is no longer available; probably the need is not there anymore (p.4)
• UL is not a very Mac friendly place (p.4)
• Gains of not switching off completely: would worry that something is going on (p.4)
• Work on the road makes easier to plan for work (p.4)
• Never thought about what she would lose or gain by working in several locations (p.5)
• One would not miss anything if stayed a week off without having any access to work (p.5)
• Thinks she is in control of her life (p.5)
• Wants to be able to react when she’s away (p.5)
• Any answer is better than no answer (p.5)
• There’s no distinctively divide when you don’t want to hear about work (p.5)
- Preferred form of contact at [big IT company] – instant messenger, e-mail or phone (p.5)
- Students expecting you to be online at 11pm and to give them prompt answers (p.5)
- Now with smart phones you expect people to be reading e-mail on the road (p.5)
- Cannot imagine life without the Internet; wonders what would be of the world without energy; tells story about movie where books were banned (p.6)
- People don’t know how to rely on phone anymore because the contact list is in the computer (p.6)
- Without the Internet she would have to choose another field of research because the one she works currently would be gone (p.6)
- When she doesn’t know something, she wouldn’t turn on the person besides her, she would google (p.6)
- Social interactions are being augmented by technologies; they give another layer to interactions (p.6)
- Notes for herself in order not to forget about something (p.7)
- Working on the bus during the night; things that requires short answers (p.7)
- 3D camp – technological innovation for the next years \(\rightarrow\) teleportation x throw a presentation in a wall directly from the phone
- Second battery is not enough. Power in the pocket is what people need. Power that would work with any device
- Devices talking with each other without the need of other gadgets (p.7)
- Devices having memory and not asking for identification again and again (p.8)
- Examples of how technologies mediate face-to-face meetings; meeting students, showing things on the screen (p.8)
- Prints stuff when she wants to scribble on it; reviewing paper (p.9)
- With the Kindle, printing out was reduced (p.9)
- Printed copies serves sometimes as a reminder (p.9)
- If it doesn’t have a strict deadline, it tends to be postponed forever (p.9)
- Print copies when want to give a obvious feedback to students (p.9)
- Does it more and more on the screen, aware of ecological issues (p.9)
- Notebooks organised by date of beginning and ending (p.9)
- Hates herself when print stuff that will be unuseful (p.9)
- Print forms that should be filled in with info that is not in the computer (p.10)
- Google docs is interesting because people can see the document changing in front of them (p.10)
- E-mail works when people are working in different sessions; it becomes more difficult when revision should be done all across the document (p.11)
- Use a common denominator, if the person is OK with e-mail, go for e-mail (p.11)
- Twitter asymmetric tool x Facebook symmetric tool (p.11)
- Annoyed with Google Plus because they don’t know what they are doing (p.11)
Appendix III – Sample of Summarised Data Set

• When she goes to Twitter she is aware that the whole world can listen what she is talking about (p.12)
• Would like to see an application to share her screen with a friend so her friend would see the same she is seeing on her screen and make changes to the artefact being displayed (p.13)
• More and more computer devices become the medium for the artefacts they’re sharing (p.13)

POSSIBLE VIGNETTES

• Overhearing conversation
• Migrating from PC to Mac
• Student asking for confirmation letter when she was in [a continental Europe country]
• The case of the “perambulator” (p.6)
• Garden party and searching about news on a guy who jump into the Liffey – social interaction augmented (p.6)
• Invited speaker and the hassle to make speakers work (p.7)
• The case of 3D camp – [person to present] very emotional and technologies not working (p.7)
• Difficulties of working collaboratively with a [foreign] Professor (p.11)
• Head of department printing grading sheets (p.13)
APPENDIX IV – FROM CODES TO THEMES
LIST OF APRIORI CODES

• Change in mobility patterns
• Nomadic strategy
  o Anytime-anywhere access
  o Assemblage of actants
  o Integration with others
  o Place-making
  o Seeking resources
  o Working in deadtime
• Role of face-to-face interactions
• Role of mediated interactions
• Technological support
• Work-life boundaries
  o Blurring boundaries
  o Establishment of boundaries
  o Relationship with work-life boundaries
LIST OF EMPIRICAL CODES AFTER FIRST ROUND OF READINGS

- Collaborative work
  - Articulating work
  - Face-to-face x remote

- Critique
  - Critique to current technologies
  - Critique to excessive use of technology

- Emotional
  - Acceptance
  - Anxiety
  - Comfort
  - Concern
  - Criticism
  - Desire
  - Dislike
  - Disruption
  - Expectation
  - Frustration
  - Gladness
  - Loss
  - Obligation
  - Pragmatism
  - Preferences
  - Scepticism
  - Self-consciousness
  - Stress reduction
  - Uneasiness

- General
  - Adaptation
  - Alternative
  - Changes
  - Choice
  - Competing for resources
  - Contradiction
  - Decision
  - Disadvantage
  - Flexibility
  - Identity
  - Imposition

- Nomadicity
  - Assemblage of actants
  - Changes in mobility patterns
  - Criteria to move
  - Definition
  - Getting prepared
  - Integration with others
  - Keep tracking of resources
  - Locations
  - Micro mobility
  - Mobilising resource
  - Planning ahead
  - Reasons to move
  - Seeking resources
  - Taking opportunities

- Place
  - Difficulties with locations
  - Environmental awareness
  - Infra-structure expectation
  - Infra-structure limitations
  - Making sense of locations
Technologically-mediated Nomadcity in Academic Settings

- Office x home
- Place bounds
- Setting up temporal work place

- Technology
  - Anytime-anywhere access
  - Criterion to acquire technology
  - Integration of new technologies
  - Technological constraints
  - Technological convergence
  - Technological failure
  - Technological features
  - Technological improvement
  - Technological innovation
  - Technological mediation
  - Technology usage
  - Temporality

- Work & life
  - Crossing boundaries
  - Establishing boundaries
  - Lifestyle
  - Setting boundaries
  - Work style
  - Work-life blurring

- Work activities
  - Disengaging in activities
  - Engaging in activities
  - Intersection in the type of activities
  - Managing appointments
  - Types of work activities
REVISED LIST OF EMPIRICAL CODES

• Dynamic
  o Unexpected events
    ▪ Reconfigurations
• Emergent
  o Opportunity
• Familiarity with ITs
  o Number of IT devices
• Integration of new technology
  o Practical limitation
  o Technological convergence
  o Technological work
  o Ubiquitous computing
  o Usability
• Looking for resources
  o infrastructure
• Mediation
  o Access anytime anywhere
  o Create work artefacts
    ▪ Affordances
  o Find places
  o Innovative use of ITs
  o Manage timetable
  o Means of communication
• Mobility patterns
• Physical mobility
• Productivity
  o Concurrent activities
  o Increased work load
• Technological paradoxes
  o Cons
    ▪ Addiction
    ▪ Disruption
    ▪ Extra weight
    ▪ Heterogeneous platforms
    ▪ Increased access
    ▪ Infrastructure
    ▪ Limitations
    ▪ Procrastination
    ▪ Security
    ▪ Synchronisation
  o Pros
    ▪ Bringing people together
    ▪ Dealing with unexpected situations
    ▪ Freedom from devices
    ▪ Increased productivity
    ▪ Reduced effort
    ▪ Use of dead time
    ▪ Work anywhere
    ▪ Working as would like
• Temporal reconfigurations
  o Hurry
    ▪ Delays
  o Last minute activity
REFLECTION ON THE REVISED LIST OF EMPIRICAL CODES

- It seems that nomadicity is a notion much more complex than the way it is depicted in the literature. Nomadicity seems to be a strategy based on human intention that is used for optimising individual work and life condition, although it can be questioned whether the use of such an strategy really allows for optimisation. Nomadicity could be viewed as an ecology of practices which involves a dialog between human bodies and technologies which become actants in the process of getting work done across different locations. It seems to be a dynamic and emergent process that reconfigures itself according to the way that people think of their work, strategise about it and react in situations where they cannot develop their work tasks as they have planned.

- The data points towards the existence of a spectrum of nomadicity that ranges from choice, i.e. consciously choosing and moving to specific locations to engage with work according to personal preferences, opportunity, i.e. engaging with work as some resources are unexpectedly made available, to obligation, i.e. moving to specific sites where the needed resources are available or because a superior tells one to do so. This contrasts with the literature that usually presents meeting customers or collaborators, using equipment available only on a specific site and being close to human resources that may be important for the accomplishment of the tasks as the factors that lead people to get involved with nomadic work practices.

- In fact the motivations to engage with work in different locations seem to go beyond personal preferences. Motivations seem to be related to the kind of work that the person performs as well. Talking about the creative part of academic work, the data suggests that this is something that cannot be put within specific hours and specific spaces, because it is very linked with the notion that one never knows where inspiration or the mood for doing it will strike. Participants often mention that they are constantly planning ahead so that when inspiration strikes them they are able to set up their temporary workplace and get the work done. This finding about the unpredictability of inspiration adds to the unpredictability of the environment often mentioned in research about nomadicity. It also creates a new layer of anxiety in nomadic workers’ lives.

- It seems that work and life are becoming more and more intermingled. The data
suggests that the work and life spheres are becoming more and more blurred and that computer technologies are facilitating such a process. The participants acknowledge the fact that more and more they are developing work activities from home and often they deal with personal issues in the office. Although participants often suggest that this blurring has many advantages, such as more control over their work and life, they are conscious about the disadvantages that it can bring, such as the fact that they can be working constantly and they can develop an unhealthy lifestyle. So, again, there is a trade-off element in this and certain ambivalence about allowing or avoiding the blurring between work/life boundaries shows up.

- The data also suggests that at the present nomadicity involves more of a self-identity. It seems that as individuals, people want to have control over their time and space and, therefore, they are taking responsibility for their actions, their movements and consequently for the avoidable but sometimes desirable blurring they are experiencing. This seems to give them a good feeling of control over their work and life and support them to care about their careers without giving up enjoying the social aspects of their live.

- Choice is emerging as a relevant theme to understand nomadicity in academic settings, being followed by the concepts of trade-off and acceptance. For instance, some of the participants are aware that they are living an unhealthy lifestyle due to nomadicity. Although they accept that as a trade-off for being more productive and for enjoying some aspects of their social life, they still have that consciousness.

- In fact, the data also suggests that choices are intrinsically related to personal productivity. Participants often mention making choices about where to work, when to engage with work and what tools to use in terms of when they can be most productive and do whatever they have to do in the best way they can. So it could be argued that there is an attempt to use nomadicity for coping with work and life.

- Another finding that has to do with productivity is the fact that several participants mention that there are situations when they choose to work in places that can offer them a certain level of noisy and distraction. This level of noise and distraction would make them more productive. This contrast with the idea that higher productivity is achieved when people are totally focused and concentrated.

- Computer technologies appear to be playing a very important role in terms of
mediating nomadicity. They seem to be integrated into people’s life when they allow for a more easy way to deal with their activities and seem to be shaping people’s activities in ways that allow them to have more control over the way they experience their work and life. However, the extent to which technologies have been supporting people in exerting control over their work and life is questionable, especially in situations when they do not work as they were supposed to.

- The data points that technologies influence people’s expectations of what could be done. They can set people’s expectations high, but they not always deliver them. Technologies seem, therefore, to be part of an active process in both constituting people’s expectations and disabling that at the same time, which may cause disappointment or frustration.
THEMES AND RELATED CODES

T1. DYNAMIC PROCESS
- Reconfigurations

T1.1 Ecology of Practices
- Competing for resources
- Integrating with others
- Looking for resources
- Reconfigurations
- Work around

T1.2 Mediation
- Access anytime/anywhere
- Changes in mobility patterns
- Integration of new technologies
- Planning ahead
- Remote access
- Remote control

T1.3 Technological paradoxes
- Embarrassment from IT use
- Excitement from IT use
- Limitations of IT
- Other Technological Issues

T2. DRIVING FORCES
- Bound activities
- Face-to-face
- Feeling of being working
- Flexible activities
- Making oneself visible/accessible
- Personal productivity
- Place issues
- Proximity
- Reasons to work from a specific location
- Setting up temporal workplaces
- Temporal aspects
- Trade-off

T2.1 Spectrum of Nomadicity
Choice
- Comfort
- Freedom
- Mediated interaction

T2.2 Opportunity driving nomadic work practices
- Inspiration/mood

T2.3 Obligation as a factor for nomadic work practices
- Face-to-face
- Fixed resource

T3. IMPACT UPON WORK-LIFE
- Concern
- Contradiction
- Family
- Personal and professional devices
- Simplification
- Social aspects
- Tensions

T3. 1 Work-life boundaries
- Establishing boundaries
- Blurring boundaries
- Relationship with work-life boundaries

T3. 2 Advantages of Engaging in Nomadicty
- Satisfaction
- Stress
- Productivity
- Reconciling work-life
T3. 3 Disadvantages of Engaging in \textit{Tm-N}

- Ambivalence
- Annoyance
- Burden
- Dissatisfaction
- Distress
- Downfalls
- Procrastination
APPENDIX V – EXCERPTS OF DATA CROSS-TABULATION
## DYNAMIC ASPECT

<table>
<thead>
<tr>
<th>Participant</th>
<th>Source</th>
<th>Quote</th>
</tr>
</thead>
</table>
| P03         | Interview | • Things are pretty hectic in the office  
               • Trying to be proactive  
               • Needs some moments without checking e-mails to relieve  
|             | Shadowing | • Arrives 15 minutes late – traffic was terrible  
               • Lecture hall 5-minute walk from his office  
               • Explains that students can see if he is coming from the glass walls of the building  
               • Ends the lectures, goes to a café to grab a coffee before going to his office, meets a colleague, talks about some happenings on campus (fire, technologies not working in the lecture hall where she was teaching) and then discusses plans for a publication he is writing  
               • Back to his office, Google calendar reminder for next lecture, quick look at his inbox (although he had previously put down the number of messages)  
               • Reply e-mail before imminent lecture  
               • Endless saga with lab comp privileges and set up of user accounts  
               • Admin very busy person and doesn’t give him the proper privileges  
               • Has lunch in 10 minutes (5 minutes from his office to the restaurant + 10 minutes from the restaurant to the lecture hall – time moving greater than lunch time)  
               • Arrives in the lecture hall – same routine. Lab session. Showing students how to do some code in HTML  
               • Turns his PC on, logs in and a sync app loads automatically  
               • PC is slow to start up, mouse is dead, sync app freezes, deep breath and keep going  
               • First thing is to read e-mails – delete many of them without reading the content  
               • Outlook reading panel open for checking |
### Technologically-mediated Nomadicty in Academic Settings

| **P04** | Diary | Sometimes whether the message is worth a careful reading  
|         |       | - Hasn’t read e-mails during the weekend  
|         |       | - Reading and replying e-mails  
|         |       | - Quick laugh at the meaning of an abbreviation  
|         |       | - When inbox has less than 30 unread e-mails fells like doesn’t have to check e-mail again on the day (not in a hospital)  
|         |       | - Close Outlook quickly before unread e-mail goes over 30  
|         | Follow-up | Didn’t find one of the students and was able to find him via phone calls and text messages  
|         |       | - Being a PI has demanded more of admin work than research work  
|         | **Interview** | The number of devices in the chain is so many that possibility of failure is exponential  
|         |       | - When something fails people find their way around and use the incident in your favour  
|         | Shadowing | *(nothing relevant to add)*  
|         | **Diary** | *(nothing relevant to add)*  
|         | Follow-up | Reconfigurations \(\rightarrow\) content of past lectures moved into future lecture because technologies was not available on the day the content was supposed to be shown  
|         |       | - Self-defined multi-tasker. Good for her to be able to engage with more than a thing at a time; feels more productive  
|         | **Interview** | *(nothing relevant to add)*  
| **P05** | Shadowing | Uses the room infrastructure  
|         |       | - The tutorial session goes over time and there are people waiting outside  
|         |       | - Read first lines of the messages in the reading panel and if it’s not interesting delete it  
|         |       | - Project with international university that she passed onto another people. Keep an eye for the future  
|         |       | - Contacts student working on the Facebook project. Ethical implications behind Facebook use of data  
|         |       | - Moves to Gmail \(\rightarrow\) distribution lists – digests  
|         |       | - Quick look at Facebook – Nothing urgent  

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| Diary | • Attended a workshop, took notes on paper notebook, googled some websites the speakers were making reference to on her Android, took a few pictures and tweeted about the talks  
• Looked for [a person], famous inventor of [a design material] to invite her to come to give a talk in a seminar series she organises |
| --- | --- |
|  | • E-mail from new people following her on Twitter  
• Follow back someone she never met before  
• Won’t do that on Facebook because it is a symmetric medium  
• E-mail from competing university → selling something they don’t have. Info on the web can be deceiving  
• Back to Facebook and reply some posts  
• Moves to Twitter and is careful not to get caught up with reading many pages  
• With on-line bookmarks to keep things she wants to read after  
• Last check on the e-mail 5 minutes before lecture starts  
• Lock computer to be faster when she’s back  
• Before we leave she gives another look at her inbox (lecture should be starting by then)  
• Arrives in the lab. Students are to present; put mobile into the silence  
• In between presentations checks her mobile and then goes on to interact with her Smartphone  
• Updating the wiki she will use after the break  
• Takes someone to another building in the interval of the lecture 20 minutes to go and come back  
• After the break she goes on to talk about tools to the students  
• Asking students whether they would be interested in having somebody as guest speaker  
• Gives students a break  
• Goes out to stretch the legs; take the opportunity to check her e-mails on the Smartphone  
• Back to help students with lit review. Says that will go around and spend 5 minutes with each student – take more than 15 min with the first one  
• Helping students to frame their research |
<table>
<thead>
<tr>
<th>Follow-up</th>
<th>(nothing relevant to add)</th>
</tr>
</thead>
<tbody>
<tr>
<td>... (Continued)</td>
<td>... (Continued)</td>
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</table>

**Interview**

- Frenetic lifestyle, very busy, constantly on the go *(resonates with participant 03, 04, 05, 06, 09)*
- The difference of only two minutes may determine whether she’ll get a parking space close of distant from her office
- Time to arrive in the office determined by the time she leaves her daughter to school
- Breaks are cut when work load increases
- First dealing with e-mails can send one in different directions
- Has a person who looks after her diary the weeks she is not in UL. Otherwise she would have to be working all the time, even in a part-time position
- Like to focus and not to engage with too many activities at the same time
- Possible Vignettes
- Conference where YouTube video didn’t play *(p.12)*

**P08**

- Collaborative work in the classroom
- Students had previously interacted via an e-Learning tool
- She distributes A1 sheets of paper and coloured pens
- Previously give student 10 minutes then decide to give them only five - strategic as they seem to be enjoying the exercise and it would take longer than what she had in mind
- After 5 minute she announces the end of the exercise. Several groups have not finished. She allows them some more minutes. Very close to the 10 minutes she previously mentioned all groups are done
- Ask to each group to present their solution and their rationale
- As one of the groups presents an interesting discussion about the impacts of face-to-face meetings on collaboration arises
- Back to presentation, goes back and forth to see what is coming in the next slides. Presenter's view
<table>
<thead>
<tr>
<th>Interview</th>
<th></th>
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<tbody>
<tr>
<td><strong>P09</strong></td>
<td></td>
</tr>
<tr>
<td>Shadowing</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deadline person (p.2)</td>
<td></td>
</tr>
<tr>
<td>Academic job allows people to procrastinate since there’s no immediate boss (p.2, resonates with participant 04)</td>
<td></td>
</tr>
<tr>
<td>Research work to do with field studies can be very time consuming (p.2)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checks e-mail</td>
<td></td>
</tr>
<tr>
<td>Meets TA</td>
<td></td>
</tr>
<tr>
<td>Discusses assessment criteria</td>
<td></td>
</tr>
<tr>
<td>TA cannot see her lecture notes on SULIS</td>
<td></td>
</tr>
<tr>
<td>She goes to SULIS and solves the problem. He was assigned to the incorrect module</td>
<td></td>
</tr>
<tr>
<td>Agrees to send him a marking scheme on Excel</td>
<td></td>
</tr>
<tr>
<td>TA leaves the office</td>
<td></td>
</tr>
<tr>
<td>Checks her To-do – keeps it in a piece of paper</td>
<td></td>
</tr>
<tr>
<td>E-mails Disability Office to discuss the case of one of the students</td>
<td></td>
</tr>
<tr>
<td>Downloads a DOC file she previously sent herself</td>
<td></td>
</tr>
<tr>
<td>Print it in the secretary’s office and go to collect it</td>
<td></td>
</tr>
<tr>
<td>Has the secretary’s office keys</td>
<td></td>
</tr>
</tbody>
</table>

would be helpful. Not available at UL PCs

- Goes through group performances on the first assignment highlighting the strengths and weaknesses of each group and how they can improve
- Explain her assessment criteria
- Detailed assessment is on SULIS. She can give them access but then all would be able to see the assessment of all the others. Asks them to think of it and afterwards they can inform her whether they are OK with that level of transparency
- Starts a new topic and refers to some print-outs she has with herself
- Suggests papers for student
- Every reference is on Moodle
- Explain second assignment
- Student warns her that there are five minutes left for the lecture. She doesn’t understand the sign and he clarifies
- Class dismissed. Some students come to her for help with some issues regarding the module content and assignment. She helps them.
<table>
<thead>
<tr>
<th>Action</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checks her diary to be sure she doesn’t need to be somewhere else</td>
<td></td>
</tr>
<tr>
<td>Think having appointments on Google calendar and accessing them on their mobile would not work for her because she turns off her mobile very often</td>
<td></td>
</tr>
<tr>
<td>Back to the secretary's office to collect an envelope</td>
<td></td>
</tr>
<tr>
<td>Checks her to-do again</td>
<td></td>
</tr>
<tr>
<td>Takes notes on her diary</td>
<td></td>
</tr>
<tr>
<td>Starts an e-mail FYP student. FYP dissertation file open in Word while she types the message</td>
<td></td>
</tr>
<tr>
<td>Edit FYP dissertation using track changes</td>
<td></td>
</tr>
<tr>
<td>Adds a reference from a book on her desk on a track change note</td>
<td></td>
</tr>
<tr>
<td>Checks her to-do once again, take new notes on the diary</td>
<td></td>
</tr>
<tr>
<td>Goes through a PPT presentation – slide set for the lecture of the day</td>
<td></td>
</tr>
<tr>
<td>Checks some content on the books in the bookshelf</td>
<td></td>
</tr>
<tr>
<td>Finishes editing the slides, checks the diary once again and goes back to Outlook</td>
<td></td>
</tr>
<tr>
<td>Has got to do an Excel sheet with the marking scheme. Has never done one from the scratch. Delays it until there is no time to do it on the day</td>
<td></td>
</tr>
<tr>
<td>Goes back to Outlook, replies some messages and back again to Excel</td>
<td></td>
</tr>
<tr>
<td>Tries to copy somebody else formulas</td>
<td></td>
</tr>
<tr>
<td>Back to Outlook, read a message, goes to inbox and starts reading message by title, back to Excel</td>
<td></td>
</tr>
<tr>
<td>Quick chat with friend who calls by</td>
<td></td>
</tr>
<tr>
<td>Phone call from prospective student asking for the deadline for applying for a programme she is helping to organise</td>
<td></td>
</tr>
<tr>
<td>Back to the secretary's office for another envelope</td>
<td></td>
</tr>
<tr>
<td>On the way stops by the Head of Department to ask the info she could not find</td>
<td></td>
</tr>
<tr>
<td>Takes envelop, logoed paper, goes back to her office, write on the paper, puts a form with the paper on the envelope, goes back to put it on the outgoing e-mail</td>
<td></td>
</tr>
<tr>
<td>Stops by the essay box, takes all the essays in there</td>
<td></td>
</tr>
<tr>
<td>Separates the ones that are for her, double check</td>
<td></td>
</tr>
<tr>
<td>Some students don't address the essay to anybody</td>
<td></td>
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</tbody>
</table>
and she has to check content and try to identify whether the essay is for her or not
- Separates assignments addressed to a friend of hers
- Return the assignments that are not for her to the essay box
- Back in the office, checks e-mail once again
- Goes to the loo, assembles actants for the lecture
- Wears wristwatch
- Checks Gmail, checks mobile phone and turns it down
- Jokes about the lecture
- Arrives in the lecture hall; someone there rushes away
- Load presentation and get prepared to starting the lecture
- Talks with students about issues on SULIS
- Places very noisy but becomes quiet as she starts speaking
- She has to force her voice to reach student in the rear of the room – no mic system installed
- After lecture she goes to her office, takes her stuff and rushes to the train station

<table>
<thead>
<tr>
<th>Follow-up</th>
<th>(nothing relevant to add)</th>
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### MEDIATION

<table>
<thead>
<tr>
<th>Participant</th>
<th>Source</th>
<th>Quote</th>
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</table>
| P01         | Interview | - Not a good person to ask about mobility patterns without technology; always had a computer at home  
- Internet access is so ubiquitous that one doesn’t have to think about whether the place where one’s going will have it  
- Integration of new technologies happen if they can offer something significantly better that can justify the learning curve  
- Sceptical about technologies coming down the pipe  
- Pro single device  
- Physical requirement might demand more than a device  
- Making a phone call on the laptop while walking on the street would be terrible |
|             | Shadowing | - Works on his netbook and uses pencil and paper to make some notes as he’s working (p.3)  
- Reading a local copy of a paper on his netbook (p.4)  
- Checks how long it took for him to write that paper. Keeps a log of his activities (location where they were developed and time he spent developing them); useful for planning the research year (p.4)  
- Use UL proxy server to get access to the university’s library and download a paper (p.4)  
- Had problems to find the off-campus access link because the library webpage was recently redesigned (p.5)  
- E-mail a colleague to ask about a paper they wrote together (p.5)  
- 5 e-mail account, all centralised in his Google account, due to the flexibility Google accounts provides (p.5)  
- Never delete anything due to enough space in Gmail (p.5)  
- Checks a file in his on-line repository; using a version control software for that – important when use different machines (p.6)  
- Syncs his netbook with his PC first thing when he arrives in the office. The process takes about 2 minutes (p.7)  
- Calls the lab help desk and ask them to give his colleague access to his subversion folder (p.8)  
- E-mails his colleague telling that she can already |
download the files she needs. Use Emax for that, but first goes to his Google account to check her e-mail address (p.8)
- Lunch time. People from the lab going door to door calling the other for lunch. Calls his colleague and asks whether should go with the crowd. Decide to go and move to another place afterwards to discuss the presentation (p.8)
- Before leaving, prints the document he prepared in a networked printer in the room next door (p.8)
- Uses a relatively old software tool to access e-mail; it's reliable and he knows how to use it very well (p.7)
- She uses a online system to book a room in their laboratory facilities for them to meet tomorrow afternoon (p.10)

<table>
<thead>
<tr>
<th>Interview</th>
<th>P02</th>
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</thead>
<tbody>
<tr>
<td>If pencil is put to paper it would create an artefact that would survive throughout time for some reason</td>
<td></td>
</tr>
<tr>
<td>Pencil and paper is still more immediate than any computer artefact that's there</td>
<td></td>
</tr>
<tr>
<td>Persistence of the information in the digital sphere is probably better than paper, as long there is electricity</td>
<td></td>
</tr>
<tr>
<td>Need keyboard for programming activities</td>
<td></td>
</tr>
<tr>
<td>iPad still annoying in terms of interaction; cannot shift between different activities easily</td>
<td></td>
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<tr>
<td>For real nomadic work batteries are the biggest problem</td>
<td></td>
</tr>
<tr>
<td>Apple is trying to work along Mark Weiser's ubiquitous computer media</td>
<td></td>
</tr>
<tr>
<td>Basically there is the main devices used but in the end access to resources is via cloud sharing</td>
<td></td>
</tr>
<tr>
<td>Having a local cache of the information is important for work not to stop (resonates with participant 01)</td>
<td></td>
</tr>
<tr>
<td>Hotel without Wi-Fi; use iPhone to find Wi-Fi spots</td>
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<tr>
<td>Different devices for different things that communicate with each other is more important than a single device</td>
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<thead>
<tr>
<th>Shadowing</th>
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<tbody>
<tr>
<td>Phone alert warning forthcoming meeting when on his way</td>
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<tr>
<td>Alerts are annoying, cannot leave without them</td>
</tr>
<tr>
<td>Talks about Apple products, changes in the market, and problems with Mac products (no Flash, only Safari, etc)</td>
</tr>
<tr>
<td>He has only his iPhone and iPad with him. Notes is open on iPad with the agenda for the meeting</td>
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</tbody>
</table>
Appendix V – Excerpts of Data Cross-Tabulation

<table>
<thead>
<tr>
<th>P06 Interview</th>
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</thead>
<tbody>
<tr>
<td>• iPad is useful for short to medium size notes and allows him to e-mail notes taken in meetings to himself easily so he can elaborate on the notes later from his laptop</td>
</tr>
<tr>
<td>• iPad also useful for adding events to his personal calendar</td>
</tr>
<tr>
<td>• Self-defined technological enthusiast</td>
</tr>
<tr>
<td>• Likes utilities that help to create lists</td>
</tr>
<tr>
<td>• Technologies for lecture: USB key, Kindle, lecture hall PC, overhead projector</td>
</tr>
<tr>
<td>• Just got a new bag; too many gadgets to bring in a small bag</td>
</tr>
<tr>
<td>• Internet is crucial for the daily administrative activities</td>
</tr>
<tr>
<td>• Mostly glad to have technologies that help to sort out unexpected events (resonates with participant 04)</td>
</tr>
<tr>
<td>• Frustrated that students expect her to give everything ready for them in SULIS</td>
</tr>
<tr>
<td>• Stressed in thinking about all the technologies she has to carry around</td>
</tr>
<tr>
<td>• Technologies facilitates the transition from a place to another</td>
</tr>
<tr>
<td>• Uses Twitter to see what other people are talking about. Doesn’t post</td>
</tr>
<tr>
<td>• Many things have happened in the past two years that make life easier</td>
</tr>
<tr>
<td>• Remote desktop facility is something that has to be improved as a support for people working from different locations (resonates with participant 1 and 3)</td>
</tr>
<tr>
<td>• In favour of single device, but it would be a source of concern to her</td>
</tr>
<tr>
<td>• Lightweight and plug-and-play wireless technologies are very relevant to nomadic workers</td>
</tr>
<tr>
<td>• Decided to get a Kindle after having to carry around her heavy laptop due to an one-hour meeting</td>
</tr>
<tr>
<td>• Technologies have a lot to do with increased mobility</td>
</tr>
<tr>
<td>• Phases of buying a lot of gadgets. The last one was around last Christmas</td>
</tr>
<tr>
<td>• Liking a device and being able to have fun with it are not enough to make her buy it. It has to make her more efficient</td>
</tr>
<tr>
<td>• Nomadicity is dictating the way she integrates</td>
</tr>
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</table>
| Shadowing | • Check UL timetable while composing e-mail  
• Calendar on Blackberry messed |
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</thead>
<tbody>
<tr>
<td>Diary</td>
<td><em>(nothing relevant to add)</em></td>
</tr>
</tbody>
</table>
| Follow-up | • Feels more mobile because of the tools she has (p.1)  
• Using on-line tools to talk with people/students in the lab next door (p.3)  
• There are 3 dimensions of interaction: in person, virtual and remote (p.3)  
• Doesn't like things being automated by themselves; likes to keep control (p.4)  
• Planning to moving to cloud computing soon; see many advantages (p.6)  
• Concerned about having secure things like students' grades on the web but aware that in the end of the day it's what happen (p.6)  
• Cloud computing does not eliminates the need for a machine (p.6)  
• Anything that needs a hard drive is also on the web as an alternative and she always uses the alternative (p.6)  
• Working on following week's lab sheet and making changes according to what she observed during the lab (p.9)  
• Everything is done on her machine; no more clutter (p.10)  
• Doesn't mind if they change to another system as long as she can do the core things and it doesn’t crash as much as the current one (p.10)  
• Technology enables her to be multi-tasking (p.10)  
• People have to have time to sit down and to learn how to make proper use of tools to be more productive (p.11)  
• Work without current technology would be a lot slower (p.11)  
• People expect a response straight away, especially because you don’t need to be in the office to respond to something, and when people see a message they feel compelled to reply (p.11) |
| P07 Interview | • Not an earlier adopter  
• Moving towards a more stable platform allows one to be more productive |
<table>
<thead>
<tr>
<th>Appendix V – Excerpts of Data Cross-Tabulation</th>
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<tr>
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</table>

- **Use of technologies is mixed among the several activities performed**
- **Content in the Intranet; tired of wipe memory sticks because of viruses**
- **With distant learning one of the nomadic dimension of his work has been reduced (meeting students), while another has been increased (working from cafés, hotels, homes, etc.)**
- **However technologies do have an impact on people mobility patterns. When the Internet was much better on campus he would come to the campus on Saturdays night to download or e-mail something**
- **His laptop is a mirror of his work PC**
- **Invest a day or two a month to ensure that the version of the systems are the same both on his PC and laptop**
- **Technologies are converging**
- **Simplifications on the way things connect would be an improvement to the support for nomadic workers**

| Shadowing | **Sends brief e-mail to student informing his first impressions and details will follow the day after.**
| Shadowing | **Explains that by sending those messages he commits himself to do something, force himself to get it done so procrastination is avoided**
| Shadowing | **Lecture hall – comp laboratory. Logs into his account and get all the resources he needs for the lecture. Access software available in the current built of computers on campus**

| Diary | **Mobile phone used to keep in contact with UL**

| Follow-up | **Web-based calendar → one of the things he has to do in the summer (p.3)**
| Follow-up | **Won’t engage with e-commerce in wireless cafés (p.5)**
| Follow-up | **Cloud computing is a business model (p.6)**
| Follow-up | **Security is a big issue (p.6)**
| Follow-up | **Won’t print something that he doesn't need (p.9)**
| Follow-up | **Decisions about technologies are made sometimes without careful thought; taking part of the research makes him to think of that (p.9)**

| P08 Interview | **Limitations to work with distance learners have pushed her towards some technologies**
| P08 Interview | **Doesn’t like making phone calls, leave then to do the last thing in the day**
| P08 Interview | **Former technophobe, not evangelical about technology, but supportive when the technology in question is useful**

<p>| 357 |  |</p>
<table>
<thead>
<tr>
<th>Shadowing</th>
<th>• Cover slide projecting</th>
</tr>
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<tbody>
<tr>
<td>Interview</td>
<td>P09</td>
</tr>
<tr>
<td>• Uses only the basic technologies because feels she doesn't need them massively (p.4)</td>
<td>• Takes the e-mail address from the person and asks the person to send her an e-mail reminding her in case he doesn't hear from her in the next few days</td>
</tr>
<tr>
<td>• Has a laptop at home and a PC at work which are not properly syn</td>
<td>• E-mails herself the content of the afternoon's lecture</td>
</tr>
<tr>
<td>• Resources are mobilise by means of memory stick and e-mail attachments (p.5)</td>
<td>• Strategies to keep everything secure on the Internet (p.5)</td>
</tr>
<tr>
<td>• Lazy to bring the laptop. Would have to bring a whole other bag with plugs and stuff (p.5)</td>
<td>• To-do in a piece of paper is more convenient; easily editable (p.5)</td>
</tr>
<tr>
<td>• Internet is the fundamental technology helping her with her nomadic practices (p.5)</td>
<td>• To-do on the phone for commitments far away, setting an alert to remind her the day before (p.5)</td>
</tr>
<tr>
<td>• Would be “genuinely completely lost without” the Internet (p.5; resonates with participant 05)</td>
<td>• Presentation facilities and Wi-Fi are the resources she usually expect the environment where she is going to work to have (pp. 5-6)</td>
</tr>
<tr>
<td>• Perceives herself as more mobile than 5 years ago, since work can be done wherever one wishes and the results can be easily brought to other places (p.6)</td>
<td>• To minimise disruptions one should know how to fix the technology (p.8)</td>
</tr>
<tr>
<td>• To minimise disruptions one should know how to fix the technology (p.8)</td>
<td>• E-mail is the main communication tool for work. Mobile phone is mostly used for the personal sphere (p.8)</td>
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<tbody>
<tr>
<td></td>
<td>• Paper to-do is for immediate things; electronic to-dos are more for appointments (p.5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Not finding the deadline when she needed wasn’t a technological fault (p.6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• More inclined to blame herself than the technology (p.6)</td>
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<tr>
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