ELTRUN WORKING PAPER SERIES

WP 2004-003

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Social accessibility and the mobile phone: A temporal perspective[1]

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Abstract: This paper examines how the use of mobile phones influences the traditional temporal boundaries that people enact in order to regulate their social accessibility. With specific reference to employees working in traditional companies which follow a rigid temporal organization of work arrangements, we found that people are becoming more vulnerable to organizational claims. By being directly available without being fixed to a specific place employees are gradually forced to be "anytime" available for organizational matters since the mobile phones do not carry the connotation of family space as do the landline phones. As a result people find it harder not to answer their mobile phones and to draw a definite temporal boundary between their work and non-work activities.

1. INTRODUCTION

The emergence of mobile telecommunications has triggered great interest in the transforming properties of this type of technology. Academic research and business imagery have stressed the changing notions of time and its effects on everyday activities (Green, 2002). More specifically, recent literature has mostly appraised the capability of mobile phones to compress time and enable workers to respond to organizational demands practically anytime. However, the effects of such properties in the structuring of people's time have not yet been thoroughly investigated.

People's engagement with the material and technological world is temporal to its core. Time functions as one of "the major dimensions of social organization" (Zerubavel, 1979) along which people define and regulate their activities. In the modern society where technology permeates almost every human activity it is only natural that technologies influence this temporal dimension of social organization. In this paper we are interested in exploring the role of time and technology. More specifically, we are concerned with the ways mobile phones, as a new technology, "entime" (Hörning et al. 1999) social organization.

The connection between the temporalities of mobile phones and the temporalities of social practices in which they are embedded are not clearly understood. In this paper, we propose that people structure their time not only through their activities but also through the various roles they assume in their everyday lives. To this end, mobile phones, with their ability to render the workers available at any time, intensify the destruction of the boundaries that people create around the various roles they assume. Workers are increasingly asked to enact

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[1] A version of this paper will be presented in Ethicomp 2004, Challenges for the Citizen of the Information Society, April, 14-16, Syros, Greece.

new temporal structures which are flexible enough to embody the increasing use of mobile phones for organizational matters and to deal with the increasing intrusion of formal organizations in their other activities.

In the following section research on time and technology is presented. In section 3 the temporalities of modern life and the temporal dimension of social accessibility are analyzed. Our research design and data collection methods are presented in section 4. The main body of the paper focuses on the analysis of the way mobile phones induce the restructuring of temporal boundaries in people's everyday practices. Finally, the last section presents the conclusions of the paper and identifies open themes for further research.

2. TIME AND TECHNOLOGY

The introduction of new technologies in organizational practices which aim to compress or save time (e.g. just-in-time) in combination with the turn of the century triggered an interest in the concept of time in both management and information systems literature. Although the temporal dimension of many social activities has been noted many decades ago (e.g. Zerubavel, 1979), time became suddenly a prominent issue of discourse among academics. New concepts such as time famine (Perlow, 1999), entrainment (McGrath & Rochford, 1983) and polychronicity (Hall, 1983) have been introduced and an increasing number of research endeavours tried to explore the temporal aspects of modern society.

Time as treated so far by the management literature is completely dissociated from technology. Perlow (1999) in her work examines temporal coordination in a software engineering team but focuses primarily on the interactions among the team members in order to examine their attitudes regarding time. Technologies like ICTs are not the focus of her research effort although in her article she describes engineers using computers and CAD software in their work. Polychronicity, another prominent theme in the management literature, is also treated with reference to the national or organizational culture of a person (Cotte & Ratneshwar, 1999) or even the character or the capability of people to do many things at a time (Benabou, 1999). Moreover, many of the studies that examined the role of time in the change of organizational practices (e.g. Staudenmayer et al. 2002) did not examine the role of technology in these changes but rather focused on the working rhythms of project teams or the pace of introducing new products in the market that each organization had adopted. Nevertheless, as Hörning et al. (1999) argue, "modern patterns of time, the temporal intensity of everyday life, can scarcely be conceived of without the use of technology". Technology is deeply embedded in our everyday practices which become "entimed" by the rhythms of the technological artifacts that we deploy in almost every activity of our life.

In information systems, the research focus has been primarily placed upon the impact of new technologies on temporal practices. Two of the most cited empirical works on time and new technologies conducted by Barley (1988) and Lee (1999) focus on technologies installed inside the organization, CT scanners and EDI systems respectively. The purpose of both these research efforts was to examine the way people within organizations restructure their temporal patterns and cope with changes in their temporal rhythms because of the introduction of the new technologies. However, with the notable exception of these two research efforts, the rest of the IS literature on time focuses primarily on the way new information technologies such as the Internet accelerate organizational practices influenced by the business imagery of time compression. As a consequence, research, thus far, has failed to account for the complexities of the relationship between information technology and the temporal structures of modern society (Lee & Whitley, 2002). Acceleration is not the only change that information technology introduced to the way people understand time and

construct temporal structures in their everyday practices. As Hörning et al. (1999: 296) vividly put it:

> *The impact of technology is in fact primarily a question of the circumstances of how artifacts enter the processes of our social relations. Its (presumably inherent) capabilities are constrained or enhanced, depending upon how it becomes embedded in our social practices.*

In this paper, we examine the way in which, a new technology, the mobile phone, entered our everyday lives. The emphasis is placed primarily on the way mobile phones influence the temporal boundaries around which people are structuring their accessibility and thus regulate the chores that stem from their participation in multiple social networks. As it is evident from the analysis of the literature on information systems, the technologies examined thus far nurture a collaborative type of work among organizational members which co-ordinate their temporalities around the technology. Mobile phones constitute an individual technology that can be used in the context of an organization when the person assumes the role of "employee". Nevertheless this type of technology induces the merge of other roles like family member or friend, through the same device.

Although the vast proliferation of mobile phones triggered a great number of research efforts on the impact of this particular technology on the temporalities of people (e.g. Green, 1999), most of these research efforts adopt primarily a positive stance towards the new technology. This positive stance is evident in the persistent claim that mobile phones are turning people available "anytime, anywhere" and thus enable more decentralized modes of work that transcend the special boundaries of organizations. However, little research has been done on the negative aspects of this non-stop availability. How are people coping with the ever presence of mobile phones in their lives? How are the collapse of temporal boundaries and the need to enact new social practices experienced by people? In order to address these questions we examined the use of mobile phones by knowledge workers who work within the traditional boundaries of the organization and are not on the move as much as other professionals like salesmen. The selection of this type of employees is based on the rigid temporal organization of working practices within business firms, which gives the opportunity to register more vividly the changes in temporal boundaries introduced by mobile phones. The stable temporal boundaries around which these people regulated their various activities, work and non-work related, are more affected by the introduction of mobile phones in their everyday life than in the case of salesmen who had flexible temporal boundaries even before the introduction of mobile phones. In order to better understand how people organize their activities around the various roles they assume and the social networks they participate we examine in the next section the temporalities of modern life.

3. THE TEMPORALITIES OF MODERN LIFE

Modern society is characterised by two complementary phenomena, the construction of urban spaces as a series of fleeting places and the subsequent participation of people in various disconnected social groups and networks that form the web of a person's affiliations. The shift from co-present interactions that characterised traditional societies to "fragmented and disconnected spatial and temporal connections" (Green, 1999) implies that people are not totally absorbed by the social groups in which they participate. Modernity has inflicted a distinction between the person and the various roles it occupies (Zerubavel, 1979). Modern people coordinate their various roles and schedule their participation in various social networks in which they participate.

The need for regulation of the social accessibility of the modern person is not only related to the spatial dislocation that each role implies. There is also a temporal dimension in this need for careful scheduling that is been recognized in the social sciences since the 1970's. According to this point of view, time functions as one of the primary parameters of social organization around which the various role commitments are coordinated. As Zerubavel (1979: 40) explains:

> *The person's life is socially organized and temporally structured so that whereas during some periods of time he must be accessible to others (e.g. during office hours or on open-house evenings), there are other periods of time during which he may be legitimately inaccessible (e.g., when he is in the bathroom, mediating, or asleep)*

This distinction between private time and public time (Zerubavel, 1979) is one of the major organizing principles of the modern society. Through this basic dichotomy, people enact temporal boundaries that permit them to schedule their accessibility and regulate the commitments that stem from the various roles they assume as employees, family members, friends etc.

Previous studies have examined the emergence of temporal boundaries to differentiate between work and home commitments. For example, Tietze and Musson (2003) found that temporal boundaries are often introduced by homeworkers to enable the pursuit of their paid work: "the use of signs on office doors, dress codes, the employment of symbolic behaviour, avoidance strategies serve to safeguard 'work' from the trespassing family" (p.X). With specific reference to the use of mobile phones, Panteli (2003) found that mobile phones do not only 'stage' virtual work activities but also enable individuals to project images of traditional notions of temporal boundaries even when these do not exist in reality, though these may exist in the audience's mind. Indeed, a virtually constructed space may not have any identifiable physical boundaries but yet boundaries could still be created in the minds of the people who act and interact through mobile phones (Panteli and Dibben, 2001). Further, Panteli (2003) found that traditional temporal boundaries are acted on and are enabled by the potential of mobile telephony to hide users' physical and social cues. There are several reasons for this. One reason is because such boundaries are seen as normative and anything else as departing from the norm. Moreover, traditional temporal boundaries are recreated as a safety mechanism since they help to maintain the image of organizations that is most familiar to other business parties. This is the traditional image of organizations that has been institutionalised, and thus it is *safer* to maintain it than take the risk of revealing to a key client the virtual character of the interaction. In this way, individuals as members of organizations avoid the risk of being seen as disorganised and unprofessional, especially by potential key partners. Impressions such as these maintain commonality and thus reinforce and sustain the traditional view of organizations as physically based and *organized* entities.

Individuals of course do not only create boundaries in order to legitimise and safeguard interactions. Therefore in addition to the safety mechanism, the defensive mechanism needs to be considered. This is the case where boundaries are created as a buffer zone in order to protect one's own private area from intruders. One of the characteristics of mobile phones is that they can reach people anywhere and anytime. They can therefore easily enable invasion into one's personal life; for example, individuals receive calls on their mobile phones during social events without callers knowing their actual physical location and the social setting of which the receiver is part (this could be a social night out with friends or family). Depending on who the caller is (e.g. client or friend) individuals may want to hide information about their physical and social setting in real time. Similarly, they may not reveal information about their actual physical and social location in order to focus the conversation on the main subject of

the call (e.g. a business matter) rather than on other issues (e.g. how is the family? how is your holiday?). In this case, boundary buffering emerges on the spot.

In the analysis that follows we show how the use of mobile phones is influencing the traditional temporal boundaries that people enact upon in order to regulate their social accessibility. With specific reference to employees working in traditional companies that follow a rigid temporal organization of work arrangements, we examine how the use of mobile phones affect the coordination of the various roles they assume and how when doing so they enact new temporal boundaries. In many cases private time is confused with leisure time. However as Zerubavel (1979) who introduced this conceptual distinction argues: "private time is characterized as time during which one is socially inaccessible, regardless of how it is used". Respectively, our analysis focuses on the destruction of existing temporal boundaries that separate public from private time, because of the use of mobile phones, and the enactment of new ones. In order to illustrate the restructuring process triggered by mobile phones we focus primarily on the temporal boundary between work and family activities that we see as public and private time respectively.

4. RESEARCH APPROACH AND METHOD

The research seeks to document the changes that mobile phones are introducing in the working practices within organizations. To capture these changes we decided to focus primarily on employees with high-reliability jobs who engage in coordination activities in their work and therefore need to communicate with various persons from their own company or their collaborators. With this description in mind we asked a number of executives from various companies ranging from software to publishing houses and research centres within universities to allow us to register their use of mobile phones.

In order to register the activities of the participants in the study without impeding the flow of their work and still have a thorough account of their activities we decided to replicate some of the data collection methods introduced by Perlow (1999) who also studied the temporal organization of people's work. Perlow gathered extensive data on her subjects' use of time by asking them to track their own activities and create detailed logs. In a similar manner, on randomly chosen days we also asked the participants on the study to track their activities from when they woke up until when they went to bed.

Since the focus of our research is on the use of mobile phones we asked the participants to record in great detail the telephone calls they were making or receiving through their mobiles. More specifically, we asked them for each phone call to record the following information:

- When it happened
- What they were doing at the time
- The content of the phone call (relevant/irrelevant to work)
- The duration of the phone call
- The effects of the phone call. Was it beneficiary or disruptive for the activities undertaken at the moment? How did it alter the participant's activities? Did it alter their schedule? Did it add more activities?

The research is not restricted to voice interaction through mobile phones only but it encompasses every type of communication that can be performed through mobile phones. To this end, we also asked them to provide the same information for the SMS they send or received during that day.

After the participants had kept track of their activities we conducted debriefing interviews with them (cf. Perlow, 1999). During these interviews we asked the participants to present a

detailed account of the day they kept the logs. The interviews focused primarily on the mobile telephone calls they have made or received during this day. Participants described their feelings towards these calls as well as the effects they had in their everyday activities. They also explained why they chose not to answer or reject some calls during the day and when or if they chose at some point to turn off their mobile phone. During these interviews, we also asked the interviewees to describe in more detail the nature of their work, the responsibilities and tasks it entails in order to understand in more detail the working practices of the organization in which they work. Moreover, we prompted the interviewees to describe their general patterns of mobile use in the context of their work as well as in their private time in order to capture their attitude towards the medium.

The result of these data collection methods was a number of log files with detailed descriptions of the activities of the participants during one working day. These data were supplemented by an equal number of approximately one hour long interviews explaining the log files and the general patterns of mobile phones use of the participants.

5. ENACTING NEW TEMPORAL BOUNDARIES

Mobile phones contribute towards the gradual restructuring of the temporal boundaries between work and non-work activities. As people apply the new technology for a growing variety of purposes and for a widening range of situations (Geser, 2003) they draw new temporal structures to organize their ongoing activities (Olikowski & Yates, 2002). Up until now, the organization of working commitments was based on rigid temporal boundaries that were segregating work time from family time, where family time is here loosely defined to include non-work activities in general. Modern work schedules were established on the premise that people's remuneration was based on timed arrangements and that people had the right to be legitimately inaccessible at certain times (Zerubavel, 1979). The widespread use of mobile phones is gradually destructing this rigidity and leads people to adjust their work/family time boundary to fit with their "anytime, anywhere" availability.

The enactment of new temporal boundaries is evident in everybody's working arrangement even in the case of employees who have specific office hours, as was the case with the participants in our research. As one scientific co-ordinator of a research center told us:

> *Everybody is calling me on my mobile when I'm not in the office, my PhD students (especially them!); the secretaries from the university to ask about my classes, my boss' secretaries, my colleagues from the center. Even some postgraduate students of mine got hold of my mobile number and called me during the weekend. The reasons they're calling me are not always urgent and sometimes not even justified.*

Most of the participants in the research asserted that mobile phones allow people from different social spheres to intrude in their private time. Especially when it comes to work-related phone calls the disturbance becomes even more pronounced especially if it is not anticipated. However, most of the participants have shown a sort of reluctance to actively define the temporal boundaries of their private time by expressing a sort of inevitability regarding organizational claims:

> *Sometimes I find it quite boring to answer my friends' calls. In these cases I let the phone ring. When it comes to business calls I always reply. No matter what time it is I will definitely take the call. There is no way to escape it. Even if I don't answer it immediately, I will be forced to reply to the caller later on; so I prefer to deal with the issue on the spot.*

This reluctance to firmly define the temporal boundary between the public and private sphere of activities is also expressed by the fact that most of the participants do not turn off their mobile phones. As one of the participants stated:

> *Unfortunately, I always had this feeling that I had to keep my mobile turned on. Even at work when I don't want to be accessible I usually give it to my secretary instead of turning it off.*

This way they relinquish one of their major prerogatives regarding their ability to control their accessibility (Geser, 2003) and not leave other people to influence their schedule. As a result they enact a practice of "anytime" availability especially regarding their organizational roles. Gradually, this "anytime" availability towards organizational claims becomes the normal temporal structure against which professional arrangements are scheduled. As one of our participants claimed in its interview:

> *I even get work related calls when I'm out of office traveling! Colleagues who know that I'm traveling insist on calling me on the mobile although they know that in all probability I won't be able to respond to their requests. I vividly remember one time when they called from the office on the airport to remind me of some pending tasks. They managed to totally stress me out but the work was not done until I got back because during the trip I did not have access to Internet facilities.*

This expectation of an "anytime" available and an instant reply from the employee is more vividly expressed in occasions when the mobile is left at home. The following situation echoes the stories of many participants:

> *A couple of times that I've forgotten my mobile at home, I felt terribly. I was full of stress. When I returned home I found a huge number of unanswered calls, especially from the office. The secretary was totally stressed out by the fact that I couldn't answer the phone.*

Although many of the participants deem this reaction exaggerated in cases when they are trying to reach someone on the mobile phone and they do not get any answer, they indulge in the same reaction:

> *I realize it is sometimes obsessive but I tend to expect that everybody with a mobile phone needs to be always available, 24 hours a day. So when they don't answer I tend to repeatedly call until they do.*

Another interesting practice that people gradually enact through the intense use of mobile phones is the gradual change of the social meaning of calling a colleague during hours which are considered to strictly belong to private time at home. Although the temporal boundaries of social accessibility tend to vary according to the degree of social distance between people (Zerubavel, 1979), mobile phones help people to easily transcend this distance, especially people belonging to the same organization. As stated during the interviews:

> *Business partners usually stop calling at 19:00 or 20:00 pm … that is the norm. When it comes to my close collaborators then we can call each other until one o'clock in the morning. Especially, when I'm out on a business meeting or they are out for business purposes we use to call each other afterwards for debriefing purposes. Even when I work late and they are at home I tend to call them to exchanges ideas. […] After 1:00 am I don't call them. I don't turn the mobile off and I guess they don't either but I'm not sure. What I can tell you for sure is that we tend to leave our phones on and be available until 1:00 am at least.*

What gives people the impression that calling somebody late on the mobile is an acceptable practice is the fact that mobiles are an individual technology. This is automatically translated to a direct link with one specific holder and not its entire family as is the case with the landline phones. As Geser (2003) puts it, "by articulating differences in location, fixed landline phones have contributed to more pronounced segregation between different social spheres". This means that people perceived as more tangible the temporal boundary between home and work when they have to call someone on the phone that is destined for household use. Being an individual technology, mobile phones are lifting much of people's diffidence and lead to the gradual retreat of the temporal boundaries that regulate social accessibility in the detriment of family time.

Moreover, since in work settings mobile phone numbers tend to be widely distributed, people become accessible to colleagues that are normally quite distant in social terms. As a result the ability of people to define their social accessibility, in temporal terms according to the degree of closeness with their business colleagues is significantly limited. The temporal boundary of social accessibility does not retreat strictly in favour of a limited number of close collaborators. It becomes also more vulnerable to intrusions from a larger number of people.

> *During an election period I was responsible for the virtual campaign of one of the candidates. During this period, which fortunately lasted only for two months, I was getting calls literally 24 hours a day. I received urgent calls at 4 o'clock in the morning by people I didn't even know quite well to inform me on special developments of the campaign. It was quite annoying but it had to be done.*

Even, during hours that normally belong to someone's private sphere, mobile phones can intrude through the use of SMS. As stated by one participant:

> *Sometimes, when I finish work very late and I need something to be done by some team member in the morning I send an SMS. It is not so intruding and it is considered OK. The advantage is that you get the work done with minimum disturbance.*

In most of the cases presented so far we see the potential of mobile technology to restructure the temporal distinction between private and public time in favour of the latter. However, it is not a one-way process. Most of the participants admitted an implicit understanding among their close collaborators regarding their "anytime" availability. However, the temporal boundary that separates their work time with their family - private time is primarily drawn by the participants themselves. From the interviews conducted during the research as well as the log files it became evident that the flexibility of this particular temporal boundary is influenced by the pattern of mobile use. The more the participants have embedded the mobile phone in their activities the more reluctant they were to draw definite boundaries by turning the mobile off or by not answering on the phone calls. In some cases, it was not the organization that was extending its control to the person by imposing a constantly turned on mobile but rather the opposite. In organizational occasions where mobile use is discouraged (e.g. formal meetings) people ask for the mobiles to be turned on for emergency cases. As one participant stated:

> *Although my company in some occasions forbids the use of mobile phones I have specifically asked permission to keep my mobile on in case someone from my family would call. To grant me permission I have assured them that no one would call me unless it was a great emergency.*

Even, at home where they can legitimately turn off their mobiles to signal a definite temporal boundary between their work and their family, some of the participants admitted to be unable to turn it off:

I'm not strong enough to turn off my mobile phone! I can turn it to silent tone but I definitely prefer to keep it on even if this means that they will probably call from the office.

In summary, the introduction of mobile phones in our everyday activities "entimed" social accessibility in ways quite different than the norm. In most of the cases people experience a leakage of working hours in all their everyday activities which signals the destruction and subsequent restructuring of existing temporal boundaries. The "anytime" availability induced by mobile phones is leading people to enact temporal structures that favor a more flexible boundary between work and family activities. In cases where employees have fixed working hours, as in our research, organizational activities claim some of the time intended for family activities. Surprisingly, people are more prepared to strictly regulate their accessibility during working hours from their family members then the opposite. In our research, people rarely complained about family activities intruding in their working hours while the opposite was more frequently experienced. This means that the new temporal boundaries enacted through the increasing introduction of mobile phones in our everyday practices are rarely on the advantage of family – private time which is squeezed to fit organizational needs. Rather, work time is enlarged and comes to invade many of the other social spheres even in cases where the working hours remain fixed.

6. DISCUSSION

The introduction of a new technology, like mobile phones, into our everyday activities, work and non-work related, leads to the gradual restructuring of the temporal boundaries around which people define and organize the various roles they assume. With specific reference to the temporal boundary between work and non-work time, mobile phones introduce a new understanding of social accessibility especially towards organizational claims.

Mobile phones constitute an individual technology and thus permit formal organizations a more direct control of their members. By having a phone number connected exclusively to them, individuals can be more easily reached. Participation in a different social sphere does not function anymore as a protective shield as was the case with the landline phone which was attributed to a household and not a specific person. As a result the temporal boundary that distinguishes work time from family time is regressing to the detriment of time spend to family activities.

Previous research on the temporal boundaries between work and family time (Nippert-Eng, 1995 as cited in Perlow, 1998) documented two types of strategies deployed by employees in the enactment of these boundaries. One strategy is to physically separate work and home life ("segmenting") and thus signal a definite time-space boundary between the two social spheres. The second strategy consists of the synergy ("integrating") of these two spheres which is achieved by the intertwinement of work and family activities and the absence of definite boundaries between the two spheres. From the analysis of our findings it is evident that mobile phones are gradually leading people to introduce an integrating strategy whether this is done consciously or not. Although the participants to our study had a rigid temporal structuring of their work and non-work activities, the possession of a mobile phone which by definition abolishes the spatial boundary between work and family activities leads to the gradual destruction of the temporal boundary as well. By being directly available without been fixed to a specific place, employees are more vulnerable to organizational demands. Even when at home, employees are gradually forced to be "anytime" available for organizational matters since the mobile phones do not carry the connotation of family space

as do the landline phones. As a result people find it harder not to answer their mobile phones and to draw a definite temporal boundary by turning off the device.

The findings presented in this paper reflect the exploratory part of a study on the use of mobile phones within organizations. In the analysis we focused primarily on the effects of mobile phones on the temporal organization of social accessibility. We presented new patterns of use and we detected a gradual restructuring of the temporal boundaries that separate work from family activities. Our research was based on employees working for traditional organizations, with a fixed, temporally and spatially, arrangement; thus, data collection has to be expanded to include more types of employees in order to have a fuller picture of the use of mobile phones and its impacts. It is also important to examine issues pertaining to polychronicity and other qualitative characteristics of time in order to gain a deeper understanding of the ways mobile phones "entime" human action as they become gradually embedded in social practices.

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