Wireless Communication Technology— A Structure-Forming 'Dispositif' for Mobile Communication and Communicative Mobility

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Abstract

The paper aims to explain the constitution and functioning of mobile communication and communicative mobility, as a result of the usage of wireless telephony. The concept of *dispositif* is employed for this objective, and a *dispositif* model is constructed, depicting relationships among technology, human subjects, usage programs, and general social and cultural frames. The historical constitution of the wireless communication technology is analyzed based on this explanatory frame. Emphasis is then placed on the rebuilding of mobile communication (content, occasions, places, partners), communicative mobility (amount of travel, distances, places associated with mobile communication), and perception of space and time in mobile communication and information access. The empirical basis of the analysis is provided by the results of an exploratory online study conducted between 2001–2002 in Germany.

Introduction

New telecommunication technologies have been developed lately, thus enhancing the basis of establishing, maintaining and pursuing social relations. Particularly in recent years, the need for mobile access to communication and to data services—anytime, anywhere—has become increasingly clear, and digital cellular telephony has seen rapid acceptance and growth. Mobile phones are improving and changing fast, being currently captivated by the promises of the wireless Internet and media convergence. Driven by the growing demand of users to access information while on the go, the classical cell phone has turned into a combination of Personal Information Manager (PIM), mobile information terminal, and entertainment platform

which can accomplish various tasks such as: conversation; information; orientation; localization; agenda; m-business; supervising; entertainment, etc.

The ubiquitous usage of wireless telephony, the ultimate goal of which seems to be to enable people to communicate with anyone, and access information from anywhere at any time, has induced changes in communication, information, entertainment, and mobility patterns. It is exactly this multifaceted rebuilding process induced by the integration of wireless telephony in daily life that is the focus of analysis in this article. The focus is on the comprehension of the user's behaviour and relationship with technology. Crucial issues include how mobile communication and information and communicative mobility develop and function and how they influence communicators. How and how much do people communicate on mobile phones while moving, and move while communicating, and how do the intertwined telecommunication/movement practices change the way they live, interact, and work?

The answer to the above questions lies in the consideration of the existence of an orderly arrangement of interactions between technology, users and social and cultural frames, which has formative powers at the structural level on communication, information and mobility. At this point, terms like: *disponere*, *disposition*, and *dispositif* are brought into the foreground as framing concepts. Indeed, daily actions like watching TV, surfing the Internet, talking on mobile phones, chatting, playing video games take place within 'arranged' environments, i.e. within *'dispositives'*. The French word *'le dispositif'* is derived from the Latin radical *'dispositum'*, meaning 'to place while distinctly separating' or 'to arrange, order, regulate'. Made famous mainly by Foucault's (1977) theses about *power dispositives* (constellations or structures that facilitate and perform the exercise of power), the concept is becoming increasingly popular in the most diverse fields of social sciences: 'perception *dispositif*', *'dispositif* for communication', *'dispositif* of mediation of knowledge', *'dispositif* of education', 'cinematographic *dispositif*', or 'media *dispositif*'. The usage of this concept in Science and Technology Studies comes close to more recent orientations in the Social Shaping of Technology according to which social, communicational and behavioural consequences are built into technologies (Akrich 1992; Latour 1992; MacKenzie & Wajcman 1985). The current research falls back on Knut Hickethier's and

Lenk's media *dispositif* models in an attempt to avoid both technological determinism and extreme voluntarism when dealing with technology constitution and its effects. Following Hickethier (1991; 1995), Carsten Lenk maintained that a radio *dispositif* regulates a specific type of human-machine relationship through interactions among the technical apparatus, programs, human subjects, and reception backgrounds (Lenk 1997). These elements are also useful for the construction of a *dispositif* model to explain mobile telephony constitution and usage.

Wireless communication technology as a structure-forming 'dispositif' for mobile communication and communicative mobility

The *dispositif* model presented in Figure 1 frames technology, individuality and society in a flexible way.

Figure 1. Frames and programs of the wireless telephony 'dispositif'
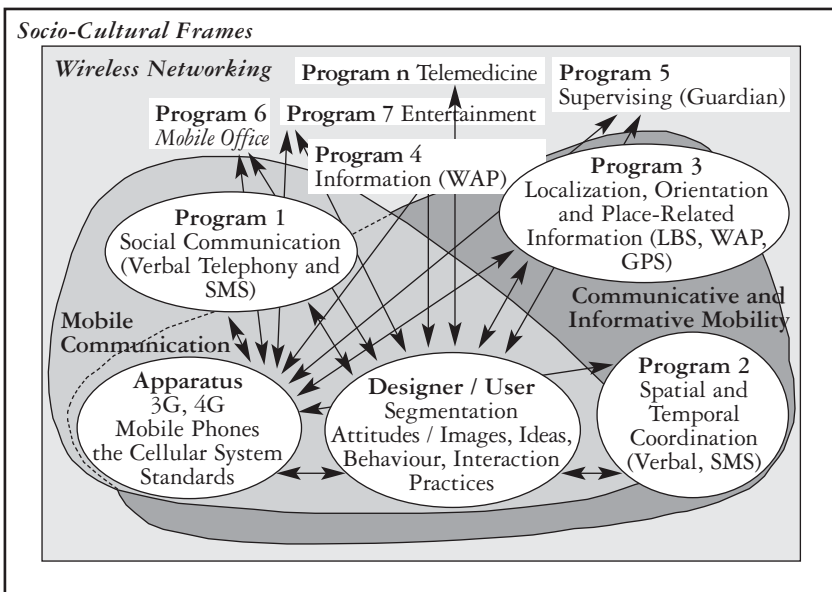
Specific communication, information, and mobility structures are built and rebuilt by the interplay of multiple layered arrangements of the *dispositif*, of a technical, social and perceptual nature.

The spiral-type interaction between the apparatus (devices, technical infrastructure), human subjects, and usage programs is influenced by the particularities of the social and cultural frame and by a general ordering principle (the wireless network), which is at the same time material (the 'cellular' spatial architecture), and representational (the mental mobile space). Social frames include institutions; regulation; types of social networking; discourses, ideologies; and communication culture. The networked society (Castells 1996), the rule of perpetual contact (Katz & Aakhus 2002) and the flexibilization of work and private spheres are decisive for defining mobile telephony shaping and usage. The second ordering frame—the wireless network—releases the usage from the strong spatial and temporal dependence and influences all the other components of the *dispositif*.

The apparatus as the material core of the *dispositif* provides users with devices and architectures that filter and structure interaction and communication according to specific usage programs. The human element, in the shape of the user and developer, designs and redesigns the usage combining motivations, needs, expectations and representations with the more rigid capabilities of the apparatus. The socially embedded technology thus provides the menu from which various 'technological meals' (programs) are served. New-generation wireless mobile phones (third generation – 3G) in particular offer considerably higher data rates, and allow significantly increased flexibility. They can provide a wide variety of services ranging from voice and paging services to interactive multimedia, including teleconferencing and the Internet. The most recent wireless *dispositif* thus includes a wide *'menu'* of functions and applications generating usage programs such as: social communication from places of choice (cell phone conversation and SMS, e-mail over the mobile phone, teleconferencing); localization, orientation and place-related information (location-based services, WAP, GPS), spatial and temporal coordination (verbal telephony, SMS); data access via the Internet (WAP: information and transactional services, fax); mobile office (PDA functions: calendar, notebook, calculator); supervising (guardian services); and entertainment

(games, video, music, broadcasting); gadgets (colours, forms). The list is not exhaustive and can be substantially extended and modified by new technology developments.

The interaction among the apparatus, the programs and the human designer/user lead to the constitution of several usage structures in the *dispositif*. For instance, the program of social and expressive conversation through verbal telephony and SMS is at the basis of the *mobile communication* frame. Its main dimensions are: the exchanged contents, the purposes, communicative actions and situations (the context), partners and their interaction. The programs of spatio-temporal coordination, information access via wireless Internet and the use of location-based services build the *informational/communicative mobility* frame. This usage structure defines the employment of the technology to exploit space/time and to coordinate subjects' movements: travel patterns, communication places, orientation, temporal and spatial perceptions. Music and games programs construct a promising *entertainment* frame. Other programs (not identified at the time the study was conducted), such as supervising or remote health monitoring, are also at the basis of specific usage structures with potential in the future.

The *dispositif* features an interesting dynamic, behaving like a living body oriented towards continuous reorganization rather than stability and equilibrium. With deeper technology domestication, the accomplishment of 'programs' further conditions human reactions and wishes, both from the perspective of users and designers. Communication, information, entertainment and supervising structures are rebuilt and rearranged according to the new circumstances. Their modification has further reverberations at the social and economic levels, inducing a temporary readjustment of the technical apparatus. Humans react by promoting or adapting the programs. The spiral continues and further affects elements of culture and society; perception and experience of space and time, and social relations. New communication and mobility forms are 'invented' and promoted; the public space is adapted to the user's communicative space; and superficial relations are increasingly managed within the network.

The *dispositif* approach constitutes a flexible explanatory alternative, which avoids many disadvantages of both structuration theory and technological determinism. According to the model, technology is first socially

shaped by the interactions between users and engineers materialized in programs and by the general social, economic and cultural constraints. The creative actions of mobile users, marketers, and engineers can manifest at various levels through invention and introduction of new and sometimes surprising programs and applications. For instance, wireless communication technology was originally dedicated to the transmission of orders and coordination, and only afterwards was used for interpersonal communication. Nowadays various uses and niches have developed, making technology usage more and more indeterminate and complex. One cannot, however, speak of a simple social structuration. Technology as a fact has the power to further condition human reactions and social spheres. Once implemented, the programs manifest a particular latency and lead to the construction of a temporary stable apparatus, which may shape usage habits, needs and expectations. In addition, technology embeds a specific type of spatial networking and temporal partition, both with structuring powers. In this way, the *dispositif* depicts reciprocal socio-technical interactions.

A diachronic view of the 'dispositif' development

The astonishingly rapid diffusion of mobile phones over the past decade, after a very long period of latency, is remarkable. It is interesting that in the process of their adoption and domestication, mobile phones did not simply replace other communication media, but have challenged and interpreted them, thus providing users with supplementary or alternative features, which have spurred specific technicized communication; information; mobility and entertainment behaviours. I support the thesis that current mobile telephony represents a mature and functional phase of a manifold *dispositif*, which has been historically constituted through redefinition and creative rebuilding of programs and structures belonging to earlier avatar *dispositives* (variant phases or versions of the *dispositif*) and competing *dispositives*. The analysis of the genesis of the current wireless telephony *dispositif* focuses on changes in social frames, apparatuses, users and programs. A diachronic view of the simplified *dispositif* model can highlight historical transformations in each element and frame.

Figure 2. A diachronic view of the 'dispositif' development
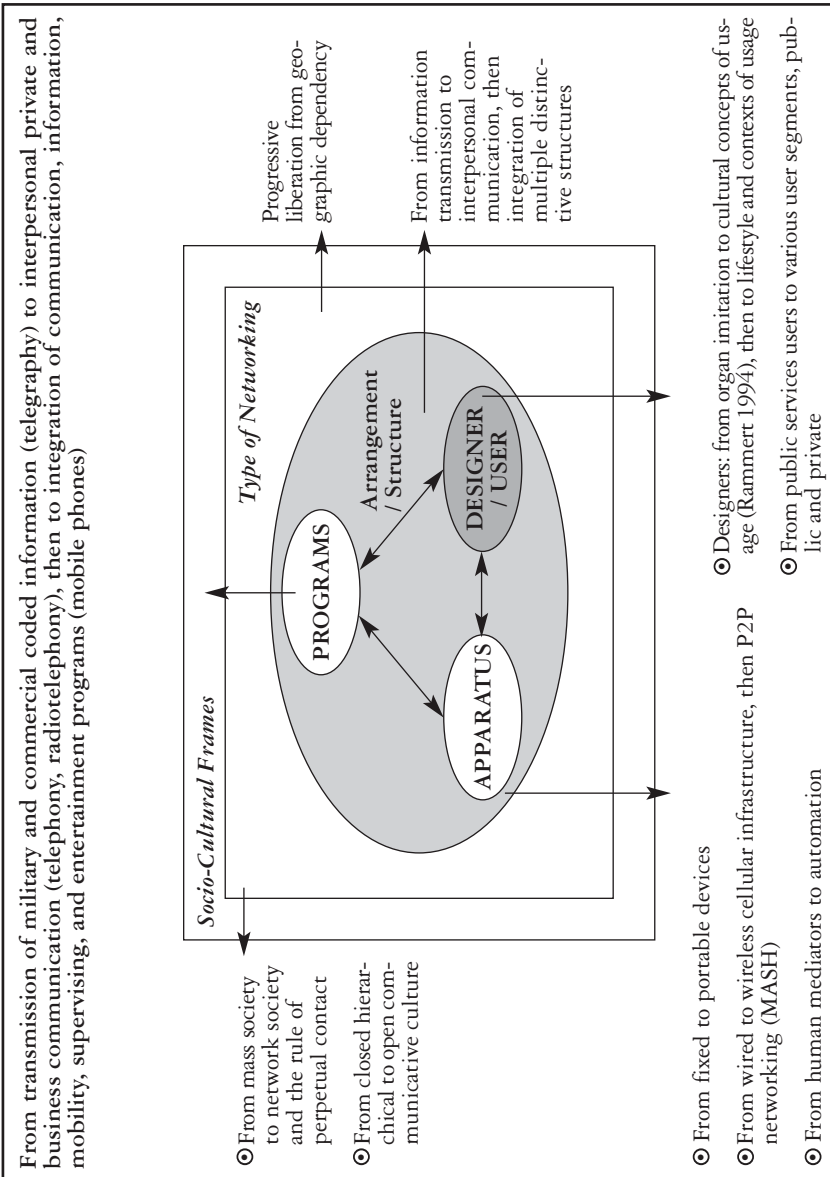
First, the society in which mobile communication and information devices are currently used differs greatly from the one of its earlier avatars. In the succession of communication and information *dispositives*, there was a gradual change from the hierarchical industrialized society, with increasing urbanization and high migration (corresponding to the constitution of telegraph, then telephone *dispositives*) to the networked informational and communicational society of perpetual contact (Katz & Aakhus 2002). These societal transformations were accompanied by the corresponding communicative cultures of users: from monologue and closed hierarchical to open and pragmatic communication, from military, commercial and information transmission in the telegraphy era, to the preservation of remote relations in telephony and the coordination of the daily instrumental and social agenda through communication, information and supervising in mobile telephony.

In addition, engineers' ideals and expectations have reacted to social and cultural mutations and suffered significant transformations: from natural scientists' ideal of life simulation through artificial organ construction, to their orientation towards various cultural visions and concepts of usage (Rammert 1993, 233–235). In creating new devices and systems, mental sets have often been modified. For instance, Bell's recognition as the father of the telephone could derive from the fact that he successfully surpassed the mental set of the 'telegrapher'—creation of instruments to make communication between operators easier—, and aimed to make the telephone an instrument of distant communication that did not require human mediators (Flichy 1999, 113). A step forward was to drive product, service, and feature development from a lifestyle point of view. Bernard Brenner, director of Nokia's Americas Research and Insights group emphasizes that as the mobile phone approaches the mature stage in this market it will be the context of current and future feature and application usage that will drive product development and industry growth (Brenner, 'The Value of Research: An Interview with Nokia Americas').

Corresponding changes in apparatuses followed the modification of social elements: ranging from fixed to portable devices, wired to wireless cellular infrastructure and peer-to-peer networking, from human mediators to automation.

It should be recognized that, in spite of the long history of the scientific ideations and even prototypes, the technology had performed rather poorly in terms of creation of user segments until the 1990s. Radiophones were not widely distributed after their invention, and a period of stand-by followed until explosive technical developments made the devices and the system affordable. This goal was partly accomplished through the implementation of the cellular system, which accommodates many users within the same area through frequency reuse, and by crucial inventions in electronics, which have resulted in truly portable devices. In spite of these technical developments, target users of the first analog cellular phones were international businessmen who could afford to buy the relatively expensive devices and service and who needed them to coordinate their mobile working lives. The lack of competition on the market, various conflicts between technologists and policy makers, and the variety of standards were additional suppressive forces. The real diffusion of mobile telephony and the broader user segmentation was facilitated by the implementation of digital signal processing, together with significant advances in integrated circuits technology, which translated into much cheaper devices and service. The economy reacted to the emergence of the successful technology through stronger competition, attractive tariffs, and flexible alternatives for every user segment. Consequently, a variety of user segments can be highlighted in the current *dispositif* .

Consider the changes in programs—the core of the *dispositif*. Historical analysis has shown that the programs of the current mobile telephony *dispositif* represent enriched, combined and rewritten versions of the programs of the early communication and information avatars. For instance, the program of electrical telegraphy aimed to structure the transmission and interpretation of information, mainly of a public nature, instead of interpersonal communication. In mobile telephony, this basic information program has been widely rewritten: for a long time its goal has been to provide private users with location-related information needed for spatial and temporal orientation. A place and time-independent information program has been developing only recently. Classical telephony was dominated by the social conversation program. This program has been appropriated by mobile telephony with a significant modification: in mobile telephony,

social communication really became personalized and de-collectivized, due to the fact that devices were portable, instead of being bound to specific locations (Geser 2003). The radio *dispositif* only temporarily crossed the path of mobile telephony development, but nevertheless provided the *dispositif* with a significant structure—the wireless transmission by radiation, implying quasi-liberation from spatial constraints in transmission and reception. After several experiments of wireless transmission of voice, resulting in the development of radiophones, the main social use of radio communication changed considerably; its role as a vector of maritime transmission became secondary, and the radio turned into a mass medium, a leisure instrument, closely related to the phonograph in its purpose of providing home music and entertainment (Flichy 1999, 145). Nevertheless, new developments of mobile telephony tend to recover even this program in a newly developing entertainment frame.

The latest explosive technical, social and cultural developments after the 1990s have brought forth an amazing richness of programs, some adapted from other modern and successful *dispositives*. Information retrieval over wireless Internet represents a rewriting of that in the classical Internet, but with a focus on place and time related information. The quasi-dialogue through SMS copies the rapid written conversation of Internet instant messaging and e-mail, which in their turn are technicized avatars of the earlier *dispositives* of written communication (letters, post). Lately, the wireless transmission of photos, enabled by a built-in camera, represents an adaptation of photography programs. Adaptation and rewriting are most intense in the entertainment frame of mobile telephony, which is now a complex puzzle of music, video and games programs. One has to admit that the appropriation of programs from other *dispositives* does not mean copying and simple accumulation. In mobile telephony, these programs are creatively combined and changed by users and developers, so that, in the end, they look different than in the previous avatars or competitors. Several such programs can be highlighted, such as temporal management through the mobile assistant/office; communication in the conversational sense; spatial coordinative communication; availability management, etc. The historical battle of *dispositives* is not a robbery, but a story of enrichment and creativity.

As a consequence of transformations in each *dispositif* element, the wireless communication *dispositif* has been gaining in complexity. Its main usage structure, mobile communication, started from the basic model of voice transmission through the telephone in the era of liberation from the domination of formal communication. Moderately long and elaborated formal and informal issues were transmitted. When radio waves allowed the free selection of places, this communication structure was significantly modified. The content turned into a mixture of chatting and coordinative indications for the efficient pursuing of the daily agenda in a very unstable, busy and interconnected life.

The management of communicative mobility promisingly began in theory with the wireless idea, but found its practical application only with the implementation of the cellular system and the miniaturized portable devices. With the rise of digital systems, the new structure was enriched with a functional data transmission component, which opened the doors for various types of information for localization, orientation and navigation. Now, music and games programs build a promising entertainment frame. Supervising or remote health monitoring will stay at the basis of specific usage structures with potential for the future.

Empirical evidence of the rebuilding of mobile communication and communicative mobility in the 'dispositif'

Evidence of the structural effects of the *dispositif* on communication and mobility structures was provided by the results of an explorative empirical study conducted online in Germany on 76 users and 75 non-users of mobile phones in the age range between 13–65 years.
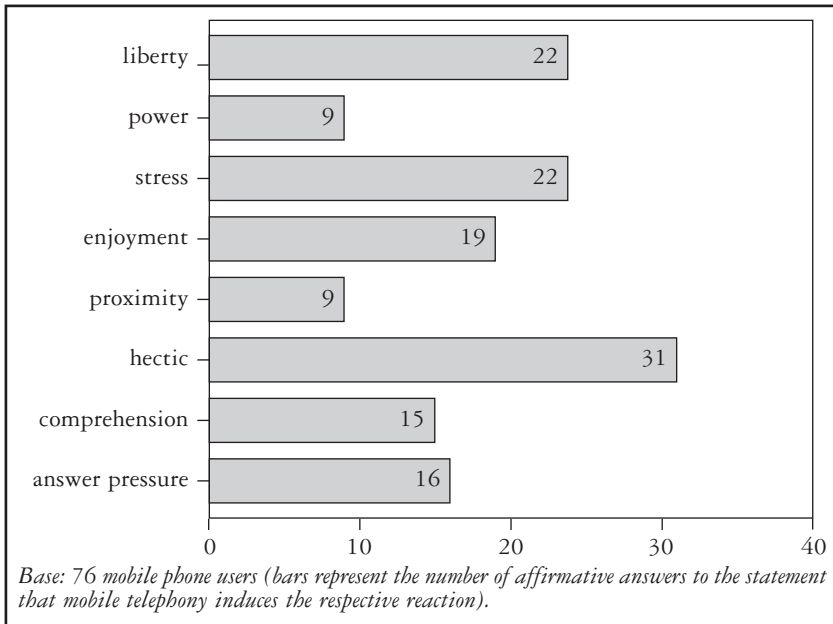
Analysis showed that wireless communication technology produced a distinct type of communication structure in terms of purposes, content, and affective reactions. A sort of mental communication 'room' was opened between users who can move while communicating. The communication intent and its assumed effects are the main factors underlying this construction (Mitrea & Cornita 2003). If the communication goal,

and therefore, the effect of communication on the receiver, is the reciprocal harmonization of the daily agenda, the content serves to regulate mobility, navigation in the physical space, and temporal synchronization. If the communication is targeted to the maintenance of sociability, the physical space with its temporal coordinates is quasi-ignored, the 'mobile communication room' turning into a frame for social conversation. The mobile communication structure is also versatile and unstable because communicators may very easily switch from navigation-related contents to chatting and vice-versa. Not only does this versatility come from communication purposes, but it also derives from the mobility of the communicators in the physical space, which leads to a strong fragmentation of viewpoints and experiences: one should react flexibly to various problems occurring in ever-changing contexts. The ratio of sociable/coordinative communication depends on a variety of factors. When the present study was conducted, mobile communication was mainly oriented towards coordination of the temporal and spatial agenda. In particular, mobile users attributed to the mobile phone a strong coordinative function (coordination of the daily agenda, risk management, instant problem solving) against the background of a relatively poor 'chatty' potential. As expected, SMS proved to be particularly appropriate for communicating short information.

Next to the content and purposes of mobile communication, the affective component of communication was also structured by technology usage. For instance, the graph below displays how users constructed the 'emotional' profile of a typical wireless conversation in an informal communication setting. Sums of positive answers (value of 1-yes of the dichotomous variables) represented the basis for analysis. It can be observed that the main reaction associated with mobile telephony was the feeling of temporal pressure. Almost half of users (31 answers/41% of users) thought that wireless conversation is characterised by hectic (the item '*I feel hurried and impatient*'). This assessment was followed by a sensation of liberty ('*I feel free to talk about anything*'—24 answers/32% of users), stress ('*I feel stressed*'—22 answers/29% of users) and enjoyment ('*I really enjoy it*'—19 answers/25% of users). Less mentioned were sensations of proximity between communication partners ('*I feel close to the partner*'—9

answers/12% of users) and power, communication control ('*I feel that I am the one who controls the conversation*'—9 answers/12 % of users).

Figure 3. The affective profile of communication over mobile phones

Base: 76 mobile phone users (bars represent the number of affirmative answers to the statement that mobile telephony induces the respective reaction).

Thus, mobile conversation produced mixed positive and negative sensations. Although it appeared to be a hurried and somewhat stressful communication, many users seemed to enjoy it and to agree that it produces a certain amount of freedom to tell everything. (Maybe one explanation for this is that in mobile telephony usage, the context can be freely chosen and changed.) However, mobile communicators complained that they might lose control over their communication because of the apparatus and service constraints. The fact that users were aware of the power and coercion exerted by the technology confirmed the sliding of the technical arrangements of the *dispositif* into the communication frame.

Other data in the study revealed that wireless telephony usage also readjusted the construction of the affective field of other competitive

communication media and forms. Mobile users in particular perceived e-mail communication as being less free and subject to temporal pressure than was the case among non-users. They also regarded telephone conversation as less hectic and stressful in comparison with wireless conversation they perceived as more hectic and tense. Interesting results concerned direct communication (face-to-face). Mobile users felt a gain in the comprehension of face-to-face messages in comparison with non-users. In addition, direct contacts appeared for them to be less hectic and stressful than for non-users. These adjustments might derive from a comparative action that users performed in their daily life among various media, which resulted in the more salient definition of wireless communication as hectic and stressful and in a relaxation of such characterizations for direct communication.

The next question is: what type of spatial and temporal behaviour (mobility, localization) is associated with mobile communication? This question is related to the *communicative mobility* structure in the *dispositif*. The construction and exploitation of the mobile communication space proves to be a complex and difficult issue. Since the current study was carried out for exploratory purposes only, no causal explanation but only meaningful associations between travel behaviour, calling locations, and wireless technology usage were highlighted. The relation between the duration of irregular business travel and the usage of mobile telephony in particular was found significant. In respect to travel distances, a heavy usage of mobile telephony was associated with an increased remote mobility. The near spatial mobility (travelling in the neighbouring areas) remained unaffected. By providing both reassurance and information, mobile phones may serve to remotely control the daily agenda.

The study also singled out a consistent subjective perception of the effect of technology usage on travel: a significant number of users of cell phones in the study asserted that their mobile calls, either sent or received, had an important effect on their mobility in physical space. This effect mainly consisted in the modification of a previously established route, and demonstrated the intrusion of the technology in daily planning through the additional information provided by the call. The second important effect, travel saving, signalled an availability of mobile users

to solve their daily problems over the virtual route provided by wireless telephony, even in the absence of direct contacts.

In respect to the localization component of the mobility frame, results showed that mobile conversation usually took place in various mobile locations: outdoors, from cars, in the streets, or from stores of the city. However, other important locations to engage in a more lengthy and comfortable call were fixed places such as the own home or office. The existence of places invested with social meanings, traversed by communication flows, can be advocated.

Temporal 'arrangements' in the *dispositif* also represented a subject of the analysis. Orientation towards the past, present and future, as well as the positioning on the monochrony-polychrony axis were investigated. It was found that users with higher education levels tended to be more oriented towards the present and future. The results also suggested that cell phone users might better adapt to the temporal disruption that accompanies ubiquitous mobile communication. One clue in this matter could be the fact that users agreed significantly more than non-users with the statement: *I prefer to work in the presence of others*, an item describing fragmentation and parallel task fulfilment associated with a polychronous experience (mean users = 3.4, mean non-users = 2.9 on a scale from 1—'definitely disagree' to 5—'definitely agree'). This hypothesis deserves closer investigation in the future.

Conclusions

The article has focused on both constitution and usage patterns of wireless telephony, aiming to understand the complex relationship among specific constraints and facilities of this technology; designers and users' actions and perceptions; and particular social and cultural frames of our time. The rebuilding of communication and movement structures due to the integration of wireless telephony in daily life is explained through the *dispositif* concept. The advantages of the concept are twofold: first, it integrates interconnected elements and highlights the structuring power of their temporary arrangement, and second, it emphasizes historically

and culturally established configurations, which correspond to various development stages of wireless communication technology.

The current analysis was mainly conducted at the micro-level, coming closer to the various domestication studies conducted about mobile telephony effects on communicators. The main contribution of the present research is that these effects have always been comprehended from the point of view of the *dispositif* approach, as emerging from the interaction among technology, user, and program frames. However, it should not be forgotten that the *dispositif* approach has always had the ambition to produce explanations at the macro-level. General structuring principles are to be advanced and promoted. This could be an interesting theme for further studies about the societal transformations as a result of a deeper domestication of this type of pervasive communication technology over a longer period of time.

References

Akrich, Madeleine (1992),'The de-scription of technical objects', in Wiebe E. Bijker and John Law (Eds.), *Shaping Technology / Building Society: Studies in Sociotechnical Change*, Cambridge: MIT Press.

Castells, Manuel (1996), *The Information Age: Economy, Society, and Culture, Vol. I: The Rise of the Network Society*, Oxford / Malden, MA: Blackwell.

Flichy, Patrice (1999), *O istorie a comunicarii moderne: spatiu public si viata privata*, Iasi: Polirom.

Foucault, Michel (1977), *Überwachen und Strafen*, Frankfurt am Main: Suhrkamp.

Geser, Hans, (release 2003), 'Towards a sociological theory of the mobile phone', *Online Publications—Sociology of the Mobile Phone*, retrieved August 19, 2003 from World Wide Web URL: http://socio.ch/mobile/t_geser1.htm.

Hickethier, Knut (1991), 'Apparat—Dispositiv—Programm. Skizze einer Programmtheorie am Beispiel des Fernsehens', in Knut Hickethier and Siegfried Zielinski (Eds.), *Medien / Kultur. Schnittstellen zwischen Medienwissenschaft, Medienpraxis und gesellschaftlicher Kommunikation*, Berlin: Knilli zum Sechzigsten, 421–447.

Hickethier, Knut (1995), 'Dispositiv Fernsehen. Skizze eines Modells', *montage/AV* 4 (1): 63–84.

Interview: 'The Value of Research. An Interview with Nokia Americas.' available at: http://www.rethinkmarketing.com/intervws/NA_04-06.htm.

Katz, James E. and Mark Aakhus (2002), 'Conclusion: making meaning of mobiles —a theory of Apparatgeist', in James E. Katz and Mark Aakhus (Eds.), *Mobile Communication, Private Talk, Public Performance*, Cambridge: Cambridge University Press, 301–318.

Latour, Bruno (1992), 'Where are the missing masses? The sociology of a few mundane artifacts', in Wiebe E. Bijker and John Law (Eds.), *Shaping Technology / Building Society: Studies in Sociotechnical Change*, Cambridge: MIT Press.

Lenk, Carsten (1997), *Die Erscheinung des Rundfunks. Einführung und Nutzung eines Mediums 1923–1932*, Opladen: Westdeutscher Verlag.

MacKenzie, Donald and Judy Wajcman (1985), 'Introduction: the social shaping of technology', in Donald MacKenzie and Judy Wajcman (Eds.), *The Social Shaping of Technology*, Milton Keynes: Open University Press.

Mitrea, Oana and Georgetta Cornita (2002), 'Configuration of the Mental Spaces in Mobile Telephony', *Online publication of the conference Transforming Spaces*, Darmstadt, March, 2002, retrieved June 10, 2003 from World Wide Web URL: http://cms.ifs.tu-darmstadt.de/fileadmin/gradkoll/Publikationen/space-folder/pdf/Mitrea_Cornita.pdf.

Rammert, Werner (1993), *Technik aus soziologischer Perspektive. Forschungsstand—Theorieansätze—Fallbeispiele. Ein Überblick*, Opladen: Westdeutscher Verlag.