

# Technology and Mobilities

## The extended co-presence of communication on the move

Nowadays we are said to live in a mobile society whose icon is, amongst other ICTs, the mobile phone. Such a portable, pocketable device has changed the way we interact and behave in our daily contexts, in both public and private settings. However, the issue this article aims to address goes beyond the evidence of a massive diffusion of the mobile phone in both Western and developing countries.



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Mobility is one of the key categories in contemporary sociology, whose status has been changing so to indicate not anymore the problem of class, gender and vertical movement as signalling a change in some social positioning. Rather, mobilities as plural depict the interweaving overlap of different, multiple ways of being on the move: physical and virtual; movement of objects, goods, risks, cultures and information, of people and their values (Urry 2007).

As such, mobilities encompass a new field of theoretical and empirical inquiry, where all the kinds of movement and displacement of people, information and objects can be comprised, from travel and tourism to migration, from mobile work to mobile communication.

Mobility, either coerced or uncoerced, is a relational concept which cannot be understood without its opposite, that means immobility (Adey 2006). Some kind of anchorage is always required, even to the most nomadic lifestyle. The same mobile phone has a fixed reference, the number through which the receiver can be reached.

In this sense, accessing mobility is a resource which can be at unequal disposal of individuals and groups, so emphasizing differences, inequalities and uneven distribution of sociotechnical infrastructures, devices and literacy necessary to allow a chosen, not imposed, mobile life.

### The sociotechnical constitution of mobilities

Mobility depends on sociotechnical processes which make artefacts more and more convergent, multi-functional and

pocketable (e. g. the smart phone). It is not just ICTs, but also infrastructures of transport – and the convergence between the two assemblies – which make possible communication on the move.

Far from being something external impacting unilaterally on our daily lives, technology is the result of conflict and negotiation among key social groups, which construct it (Bijker 1995). In particular, technology is deeply involved in the way people, objects and information are more and more “on the move”.

Technological mediation of mobility is both based on specific artefacts, e. g. mobile phones, laptops, personal digital assistants (PDAs); and embedded in complex infrastructures of sociotechnical networks, e. g. electricity, the Internet, broadband networks, wireless networks. Such infrastructures are the invisible and embedded texture which make possible for people, objects and information being mobile. They represent the pre-requisite of interconnections which allow communication while being on the move, as well as the portability and transferability of data and information across large networks.

Technologies of/for mobility can be situated at the crossroad of complementary phenomena which characterize contemporary forms of technological mediation:

- convergence, or the trend towards uniformity of technological platforms and systems;
- saturation as the web of interoperability on which infrastructures are built up and linked to each other;
- hybridity as the constant interlinkage of human and non human components;
- ubiquity as aspiration towards omnipresence.

### Convergence in technologies for mobility

Different types of convergence can be identified in technologies for mobility. Generally speaking, technologies tend to converge as for markets, functions and infrastructural architectures. Furthermore, there is a material profile of this convergence, which has to do with miniaturization and portability of multiple, multi-functional mobile technological artefacts.

I-pods, smart phones, PDAs, all of them concentrate in themselves a high diversity of tasks, functions and channels of communication. Multimedia is part of the emergence of convergence as a long lasting trend in media and information history. Convergence is particularly linked with the body and redefines materiality and visibility of technology. Size and multi-functionality of portable technological devices make them more and more embeddable, wearable and textured within or around the body.

### **Saturation of mediated environments**

Technologies saturate and fill up not only individuals' body but also surrounding environments. Such a saturation makes both the body and the environment hybrid, and the distinction between what is "natural" and what is "artificial" more and more conventional. The texture of saturation is, like infrastructures, integrated and based on the concept of interoperability (Bowker, Star 2000). As such, it is invisible, transparent, therefore difficult to grasp in its patterns. It happens with all complex infrastructures that we be-

come aware of their existence when they stop working out, when any kind of breakdown, interruption and misuse occurs. This phenomenon can be referred to the mobile phone as ubiquitous technology accessible everywhere/everytime, whose saturation increases expectations of continuous availability of participants to the communicational process. More generally, the concept of saturation describes well the way our bodies and environments are intertwined into inextricable chains of socio-technical relationships, like in the "everyware" texture of ubiquitous computing, imagined as a technology able to colonize surfaces and settings of everyday life (Greenfield 2006).

### **Hybrid bodies and artificial natures**

Interoperability and saturation make technological devices, networks and media closer to each other. In this respect, as they become closer, differences and boundaries between them and between technology and ourselves go in the background. Hybridity, mixture, mingling of the human and the non-human, as well

as the continuous texture between a mediated body and an environment saturated with technologies, play a major role on the scene. Indeed, proliferation of hybrids and the erection of the boundary between nature and culture are part of the modernization process (Latour 1993). Everyday we delegate our actions and perform activities through some socio-technical device, so that it becomes integral part of our sociality and inextricably assembled with our agency. Distinctions between humans and non humans, people and objects, result from depuration and purification which foster the emergence of hybrids. What appears to be "natural" is highly artificial and artificially naturalized through rhetorical strategies. All of us are hybrid and hybridised: the body is more and more empowered through technology; communication cannot be conceived of without mixtures of media and assemblies of sociotechnical devices. A mediated dimension is more and more prominent even in face-to-face and body-to-body communication, through conversations referred to both the mass and personal media contents, styles and characters.

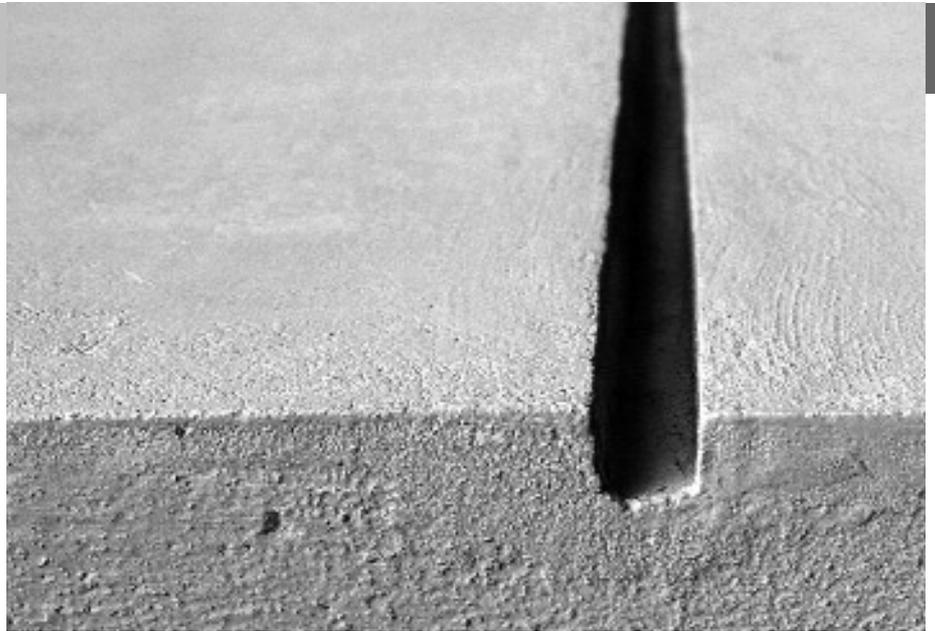


## Ubiquity and extension of co-presence

Ubiquity can be defined as the tension towards "being anywhere anytime" as opposed to the hic et nunc constraints of face-to-face interaction. The mobile phone, again, is an example of such a ubiquity because of the constant availability it makes possible. The tension toward reaching a virtual, potential omnipresence is supported by convergent artefacts, which make ubiquity more at hand than ever. Being here and there, performing multiple tasks at the same time, distributing our attention to different media, communication partners and communicational routines, is an everyday experience for an increasing number of people. Therefore, all sorts of co-presence deserve attention and dignity as research objects. It is not just the face-to-face interaction that founds communication on the move, rather extension of proximity and mobile co-presence are among the most prominent transformations we face with. Ubiquity as aspiration to omnipresence is embedded into discourses, information and artefacts supposed to be accessible anywhere anytime (at least in principle). The myth of ubiquitous computing as invisible, unobtrusive infrastructure embedded into material surfaces founds a prolific literature. Moreover, it is exemplary of a trend to imagine and design contexts of interaction, both public and private, where materiality of technology is redefined.

### Two cases: Mobile consultants and ubiquitous computing designers

The dimension of ubiquitous communication and extended co-presence is the topic of an ongoing research partly carried out during my visit at IFZ in October-November 2008. On the one hand, ubiquity is framed by looking at design of advanced computing systems, defined as "ubiquitous", sometimes "pervasive" and, of course, mobile. Designers represent a peculiar social group involved in technology construction, as they are translators of users' needs as well as of a vast imagery concerning potential developments of current and future technologies. Studying design allows to highlight gaps and continuities between the public discourses of future technology and their translations in artefacts and contexts of interaction configured by designers.



On the other hand, ubiquity is experienced by users of current sociotechnical systems, especially by those users who are highly mobile in space, time and their work. In particular, the second case study is represented by consultants in international organizations. They are peculiarly mobile as their communicative and work practices are situated culturally and their status of "boundary operators" obliges them to comply with both standardized methods of consultancy and high specificity of on-site projects. Furthermore, their mobility is to some extent an "extreme" experience of diversity: not least, diversity of infrastructures available in specific settings or fields. Such a diversity allows to focus on the relationship between mobility and access to technologies, emphasizing breakdowns in the continuous texture of ICTs, often described as "ubiquitous". Through individual in depth interviews, the experience of ubiquitous computing designers and mobile consultants is focused, with reference to relationships between proximity and distance, ubiquity of information and breakdowns in technologies expected to guarantee continuous connectivity. Provisional results emerging from pilot interviews show, on the one hand, the situated and contextual character of infrastructures in developing countries as experienced by consultants. No uniform density (and no uniform experience of break downs) seems to be traceable. Furthermore, integrative communicational patterns across different media are described, whereas the disconnectedness from the Internet is described as source of both relief and anxiety. On the other hand, designers interviewed as key informants made clear that ubiquitous computing is a broader paradigm more than a technology, showing a certain awareness

of gaps between the popular imagery of ubiquitous technologies and current technology potential. In this respect, policy-making issues emerged as crucial as the available wireless spectrum to experiment with infrastructures enabling ubiquitous computing is very limited in range and scope.

### Conclusion

The way we live, act and communicate while being on the move is a prominent part of contemporary forms of social interaction and identity. Technological mediation of mobility configures a convergent, saturated and hybrid modality of being co-present in private and public settings as well as in daily life. Through two case studies concerning the current and future state of mobile interaction, the research presented shortly in this article aims to inquire potential opportunities and risks emerging from pervasive, ubiquitous technologies seen as the latest frontier in configuring a transparent and seamless connectivity between bodies, environments and information.

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