

Chapter I

From Mobility to True Nomadicty and Ubiquity: Discussing Fluidity, Metaspaces, Micromobility, and Multiple–Profiling

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ABSTRACT

It is becoming blatantly clear that some key concepts used in computer science and information systems literature—most notably those of nomadicty, mobility, and interaction—cannot any more satisfactorily capture the present-day reality of advanced mobile technology environments. A paradigm shift from a strapped mobility to truly nomadic digital environments is underway. Peter Wegner, Carsten Sørensen, and Leonard Kleinrock, among others, have aspired to describe and explain the workings of this emerging field of very advanced information and communication technology environments. Building on their ideas of digital nomadicty, fluidity, and interactivity, we propose the concepts of metaspaces, transient hierarchies, and multiple-profiling to round up a vision of truly nomadic and ubiquitous computing environments. It will be argued that along with geographical and technological barriers or boundaries the barriers created by local and parochial techno-social systems have to be taken into consideration in order to make us truly nomadic. A key question in the near future is how the user of advanced mobile technology could be empowered to have more control over the multiple spaces he or she inhabits and the numerous boundary crossings that he or she is forced to perform.

INTRODUCTION

Mobile technology has been characterized as mobile, interactive, ubiquitous, localized, and personalized (see e.g., Carlsson & Walden, 2002; Keen & Mackintosh, 2001). More recently, concepts like context-aware, virtual, and multisensory have been used in this context, but these features usually assume, among other things, a more advanced, fully working third generation (3G) network or other more advanced mobile technology environments that are not yet generally in place, and if in use, only tentatively so (Anckar, Carlsson, & Walden, 2003). However, this state of affairs has not prevented some visionaries from stealing a glance at things to come. These visionaries argue that we are entering a new world of digital nomadicity, transgressing the confines of a more static type of mobile communication and collaboration. Although we are still partly trapped in the old world of fixed computing platforms, accessed by users with the same (personal) device from the same IP address, the world of radical mobility—true nomadicity—is just round the corner (see esp. Kleinrock, 2001).

The terms *paradigm* or *paradigmatic* have been used for instance by Sørensen (2002, 2003) and Sørensen and Pica (2005) to refer to the significant difference between the old idea of mobility and fluidity (fluid interaction); and by Kleinrock (2001) to refer to the shift from nomadicity in a disconnected world to a transparent, adaptive, and integrated nomadicity. The word *paradigm* should not be understood in a strict Kuhnian sense, though. First, the new vision of true nomadicity is still without a sharp and systematic enough conceptual apparatus in order to seriously challenge the old paradigm. Second, and more importantly, we are dealing with here a technological entity, a construct that did not exist before. The construct has changed the world (reality), so the conceptual shift does not entail a sudden *Gestalt* switch while the research object stays the same, which is generally the case in Kuhn's (1962) examples. Rather,

in the case of digital nomadicity the concepts have ceased to describe reality in a satisfactory manner as technology has evolved. In this context, we would rather speak of an epistemic rupture, a breaking point in our conceptual arsenal and discourse.

In this paper we analyze some central conceptual tools used by writers on advanced mobile technology (esp. nomadicity and mobility). In line with Peter Wegner, Leonard Kleinrock, and Carsten Sørensen, we argue that these concepts are not any more satisfactory as tools of scientific research into advanced information and communication technology (ICT), or even as tools of popular understanding. To conclude with, we will present and discuss some candidates for conceptual tools (fluidity, metaspace, micromobility, and multiple-personalization) that might better catch the social and technological properties of true nomadicity and ubiquitous computing. Taking the advice of Orlikowski and Iacono (2001), we seek to meaningfully combine both the technological and sociocultural aspects of the matter. It should be noted that we are not so much interested in what kind of a new breed of man (e.g., Castells, 2001) or new organizations (e.g., Järvenpää & Leidner, 1999) our society is giving birth to but in the actual human-computer and machine-to-machine interaction and its epistemic conditions.

NOMADICITY

"We are all nomads," says Kleinrock (1996). And he continues: "but we lack the systems support to assist us in our various forms of mobility" (p. 351). For Kleinrock, nomadicity means two different things. First, nomadicity is used to describe a vision of a perfectly connected environment: "The essence of a nomadic environment is to automatically adjust all aspects of the user's computing, communications, and storage functionality in a transparent and integrated fashion" (Kleinrock, 1996, p. 351). This sentence is presently widely

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