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**Imperfect use? ICT provisions and human decisions
– An introduction to the special issue on ICT adoption
disjunctures and the users of ICTs**

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RUNNING HEAD: Introduction

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Abstract:

ICTs have increasingly become an integral part of society, enhancing, changing, supporting, and complicating human lives. The disregard of technology inventors and designers for the users of ICTs has resulted in disjunctures between ICTs and users, though, as users have refused to become mere agents of the designers. Individual users have adopted their own uses of ICTs based on the complex webs of relations and

meanings in which they function as social actors. Instead of adjusting these webs to new ICTs, they have fit the ICTs into their pre-existing social webs, often resulting in imaginative and creative uses for new technologies, not envisaged by the original designers. This article argues that human users should be given precedence over ICTs, and that studies should focus less on creative uses of 'universal' technologies, and more on an appropriate design of ICTs that can be integrated into human lives.

Keywords: ICTs; adoption; creative use; usage disjunctures; society

Developmental discourses on the introduction, discovery or diffusion of new technology emphasise the affordances new technologies offer, and their impact on the lives of users of new technologies. While neither linear nor deterministic, such discourses still convey the idea that new technologies are responsible for improvements to the lives of their users, and that users welcome these improvements. However, as the articles in this special issue demonstrate, users of different forms of ICTs often focus less on the various affordances of new technologies and are more concerned with their integration into the users' pre-existing life-style and attendant habits and usages. In the course of this integration, ICT users frequently employ new technologies in 'wrong' ways, i.e. they come to usage decisions not envisaged by the original designers of the new technology (Goggin and Newell, 2007: p. 159).

This 'misuse' or 'expression of user creativity' is often the consequence of a 'can do, will do' mindset among ICT developers, who ignore the (potential) needs of end users. Developers push technological boundaries, explore new technologies, and attempt to bring the most 'powerful' feature-sets to market, regardless of possible usage decisions, or as Haddon (2005: p. 2) put it: "Technology developers tend to be pragmatic, their everyday life concern is to build something that did not exist before and that can be said to work." With computers, this found an expression in the speed of processors, i.e. the 'Megahertz-Myth' that has now reached 'Gigahertz' (Sassen, 2002), the size of hard drives and of computer memory. With digital cameras it is the pursuit of ever more megapixel in ever smaller packages (Kashi, 2009: p. 16), or full HD-video in hand-held video cameras (Thorpe, Kasumo, and Ike, 1998: p. 164).

Despite the obvious successes of Apple Inc. in marketing an entire user experience rather than hardware with high specifications (Apple Inc., 2010), most technology companies still ignore the real-life user experiences and decisions as an 'add-on' to their research and development, while competing with Apple Inc. on the specifications of the machines they market (see e.g. Shah, 2010). A modernist discourse seems to permeate much of the debates on the introduction and use of ICTs, despite abundant proof of the more post-modern adoption of proffered simulations in the form of lifestyle choices by ICT users (Tobias, 2007). Even social scientists seem more concerned with the inclusion of users in "*a democratic process*" (Haddon, 2005: p. 2) that leads to inclusive developmental decisions, than in fitting technology into the lives of users. The emphasis is on improving users' lives through an increased and increasingly capable use of technology, and not on providing tools to help users do what they want to do (Akiyoshi and Ono, 2008: p. 292).

The 'information society' people live in, seems to demand the subordination of human practices to the needs of the machines and ICTs they use, where 'we' humans "accommodate ourselves to the requirements of new technologies" (Postman, 1993: p. 70). Humans are transformed from being "possessive individuals" to being "possessed individuals" whose needs are mere posits for the developers of technology (Kroker, 2001: p. 6). Instead of machines being taught how to fit into the lives of humans, humans are expected to learn how to manipulate ever more complex technological products and to integrate them into their lives (Ling, 2008: p. 336) "as emerging technologies shift the balance of power between human and machine" (Dinello, 2005: p. 5). Speirs (2010) in a recent blog entry about Apple's iPad announcement phrased his objections to such a development almost poetically:

"The Real Work is not formatting the margins, installing the printer driver, uploading the document, finishing the PowerPoint slides, running the software update or reinstalling the OS. The Real Work is teaching the child, healing the patient, selling the house, logging the road defects, fixing the car at the roadside, capturing the table's order, designing the house and organising the party."
(online)

The agency or creativity of users is usually thought to be limited to finding uses for ICT gadgets, or to the integration of such gadgets into their lives (Brown, Venkatesh, and Bala, 2006: p. 207). However, this limitation and its underlying assumptions constitute a denial of the many forms of resistance against ICTs and the information society by people who refuse to allow machines to control their lives, or who prefer to use them differently (Lamb and Kling, 2003: 198).

The discussion of users and their relationship to ICTs are surprisingly one-dimensional in their unquestioning acceptance of the necessity of technology, as Randy Rutsky pointed out in his discussion of the underlying presuppositions of technological discourses (1999: p. 2; see also Cassidy, 1998:p. IX). Even the discourses on user creativity are ultimately too positive about technology and its impact on human lives (see e.g. the chapters in Haddon, Mante, Sapio, Kommonen, Fortunati, and Kant, 2005, or Heath and Bell, 2006: p. 252). While this introduction is not to be understood as a 'call-to-arms' against ICTs or machines in general, a more thorough approach to ICTs and their meaning and function within *human* society (McCarthy and Wright, 2004: p. 183), rather than the exclusive study of the *information* Society and how humans fit into it,

might be advisable (compare Jones, 2006: pp. 1-2 to the enthusiasm of Prensky, 2001).

Lamb and King also argued for such a change of approach, pleading for the

"systematic research of complex, highly contextualized ICT use [...], rather than encouraging the study of isolated aspects of ICT use in decontextualized settings" (2003: p. 219) because "social actors are not primarily users of ICTs. They often have conflicting and ambiguous requirements about the activities they perform, and the socially legitimate ways in which to perform their work as attorneys, biotechnology research teams, inspectors, plant representatives, real estate brokers, pension fund investors, students, or teachers." (2003: p. 218)

Usage disjunctures

Each of the articles in this special issue presents a study of a less than perfect integration of ICTs into the lives of human actors. Each of the disjunctures discussed offers a perspective on the lack of integration of technology into human society by elaborating on the responses of human actors to the adoption of specific ICTs into their lives. Each of them offers an illustration for Albert Borgmann's contention that the introduction of technological devices into the lives of humans always cause ruptures, and that "a timesaving device creates a hole in traditional practices no less than does a device that devours time." (1992: p. 112)

The discussions presented in the five articles offer very different approaches to a variety of topics. The common thread running through the articles is the observation that the adoption of a form of ICT does not always produce the anticipated results, but can lead to problems and individual adaptations. The introductions of ICTs into the lives of individuals do not follow predictable patterns, nor are they without their specific

challenges. Individual users are social actors, interacting with other individuals within often institutionalised settings. New ICTs do not suddenly improve the lives of individuals upon their introduction, but disrupt and change complex social webs, often with unexpected or even undesired consequences (Wilding, 2009).

In her perspective article on the online interactions between audiences and the producers of newspapers, Leopoldina Fortunati and Mauro Sarrica argue for the adoption of a socio-technical approach to study the ways in which technology is employed and how the usages of technology are shaped by factors independent of technology. They demonstrate how editors and journalists of online versions of newspapers are employing the affordances of ICTs in the transmission of news and the elicitation of feedback from their audience, without integrating these uses of ICTs into a new socio-technical system. The adoption of ICTs does not follow a strategic plan for the incorporation of new possibilities into the relationship between editors, journalists, and audiences, but seems to happen ad-hoc as new technologies are developed and become fashionable. Online news sites allow for more input and feedback by the audiences than ever before, which is however underutilised as the necessary mechanisms are not in place to cope with this audience input. Neither journalists nor audiences are involved in decisions about ICTs as editors increasingly base their decisions on the availability of technology instead of its suitability within the existing framework of the newspaper.

Helen Grace shows in her article, how the mobile phone camera has become a tool of empowerment for non-professional photographers, despite not being used to create a photographic record. The phone camera has become an expression of creativity, of

beauty, and of self-expression within the moment of taking a picture. Using the evocative example of camera phone use at a Bjork concert, she demonstrates how pictures are taken not to preserve the memory of an event or to share one's perceptions with others, but as an expression of one's presence in the moment. The mobile phone camera flash has become the new 'lighter' at concerts. Moments become real through the photographic 'Here I am' of the mobile phone camera. The camera has turned into an experiential tool that allows its user to claim the experience of specific times and spaces instead of merely recording a memory, or creating a digital work of art for the appreciation of others.

In her article on mobile phone cameras, Dong-Hoo Lee focuses on the ceding of emotional control over an individual's responses to places to the mobile phone and its uploaded pictures. She points to the discrepancy between the expansion of the photographic repertoire of individual amateur photographers through easy-to-handle compact digital cameras and the increased use of sub-standard mobile phone cameras. She argues that with mobile phone cameras the ordinary has become a part of the individual's photographic memory and is shared with the world as such. Photos taken with mobile phones have become a new way of representing a sense of spaces that contributes to the definition and reputation of spaces through the sharing of photos online. They provide voyeuristic closeness while allowing the user to keep the reflective distance necessary to evaluate spaces and to assign values to different spaces online.

Carsten Sorensen argues that as a result of ubiquitous encounters between humans and different types of ICTs, individual users of ICTs have shaped (or cultivated) their interactions with ICTs to suit their own individual needs and preferences. Users of

interactive software, with its constant demands on the attention of the user, are not merely using all the affordances technology provides, but instead accepting or rejecting the assistance of ICTs in their own ways. While the individual users are typically constantly adapting their ways of interacting with others to changing needs, four different shapes of interactive settings have emerged that are employed by users to automate their regulation and control. Individual users delegate differing amounts of control over their interactions with ICTs and through ICTs with others to the ICTs themselves. Although some users prefer not to delegate the management of their interactions to ICTs, most users choose to allow ICTs to either employ simple filters for instances of ICT communications, or to recognise and classify communications based on pre-defined relationship data, or even to filter entire relationships based on user-defined parameters. In short, human responses to ICT affordances present themselves as a graded acceptance of an ICT's supremacy over an individual's life and interactions with others.

Work habits and the focus of an individual's attention have become a part of the individual's interaction with ICTs rather than the opposite, with humans fighting a rear-guard action to minimize the interruptive quality of ICTs while maximising their productivity. The ubiquitous interactions of humans with ICTs discussed by Christian Licoppe have created the sense of constant availability of individual users, and its concomitant sense of the permissibility of ICT-based interruptions. The general undesirability and discomfort of interruptions have prompted the provision of individually customizable and adaptive notification systems and patterns to minimise the disruptive effect of such interruptions. The customisation provisions of individual notification systems have grown to such an extent that individual users have now

become "pragmatic amateurs" skilled at interpreting the different meanings of a variety of nuances of ICT notifications. ICT notifications and their disruptive qualities have been integrated into the flow of ICT usage to minimize their disruption of the flow while providing enough information about the content of the notification to allow the user to make a choice on whether or not and when to access this content.

The users of ICT notification systems can be presented as actors with choices over their interactions with the ICTs they employ, just as users of digital cameras alongside mobile phone cameras can be portrayed as highly capable photographers with a variety of situation-specific tools. The underlying subtext is still that only the full use of ICTs and their affordances are evidence of the skills of the user, while anything less demonstrates a lack of skills. The 'default position' in human-ICT interactions is the knowledgeable application of ICTs according to its design specifications by the human user, who becomes the *agent* of the designers, but loses his/her status as a free *actor*.

While the articles in the special issue represent five very different views on the usage of ICTs by individual human actors, a critical attitude towards the integration of the users into different ICT contexts emerges in each one of them. Instead of focussing on the 'wrong' or 'creative' use of new ICTs by individual users, an approach studying the 'context-free' or 'unnecessary' development of ICT gadgets might prove more beneficial (Suchman, 2007: p. 126). Humans should not be made to fit into a technological environment. ICTs should be designed to fit into human lives.

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