Introduction

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The mobile phone is becoming an increasingly ubiquitous part of eve-ryday life—not only in developed countries where penetration levels suggest there are more handsets than people in some countries, but also around the rest of the globe. Handset manufacturers are now turn-ing their attention away from the saturated European markets to coun-tries such as China, which boasts the largest mobile subscriber base in the world, and increasingly to developing countries, where cellular technology is often leapfrogging the roll-out of stable fixed-line tele-phone networks. With this ubiquity comes a change in the role of the mobile phone as a social artefact.

We already know how it enables simple social communication, but increasingly it plays a number of sophisticated roles in social inter-action and everyday life. It is an enabler of social interactions, hierar-chies and communication. It is a fetishised object that reinforces a sense of individual identity. It is a transformative technology that changes the way we do business. It is a device that changes how we manage space and time. It is a tool for text-messaging. It is a super-computer in our palm, able to perform more computational tasks than the Apollo rockets. It is simply a voice-machine, its advanced features neglected by the vast majority of its users. It is all these things, and yet more besides.

Perhaps most of all, the mobile phone is coming to be associated with *presence*. With fixed-line telephony we call a place; with mobile telephony we call a person. We increasingly expect the person to be on the other end of the line, and become frustrated if the call is not an-swered or if we are redirected to voicemail—a typical frustration ex-plored further in the research in this volume. Tragically, in recent times we have become most aware of how closely mobile phones are associated with presence by the shock of their sudden association with absence. In recent terrorist atrocities, mobile phones have played many critical roles, starkly indicating how tightly woven they are into our so-cial and cultural being. Most tragically of all in the Madrid bombings of 2004, mobile phones were used to trigger the bombs and then, subse-

quently, mobile phone records were used to trace the bombers themselves. In the London bombings of 2005, mobile phones were used amidst the confusion of the aftermath to check on the wellbeing of loved ones—to check their presence in the world—at such dense levels of usage that the networks struggled to manage the volume of calls. In the days after the bombings, mobile phones were also called into service as witnesses, when first the news networks and then the London Metropolitan Police themselves called for mobile phone photo and video evidence of the atrocities to be submitted, and were deluged. Some of the most shocking, and most repeated, images of the bombings are the grainy, dim images taken by passengers immediately after the event via their mobile phones. It is a perverse validation of the centrality of the mobile phone in our lives that when faced with catastrophe, it is the small hand-held device in our pockets we turn to, both to re-connect ourselves with our loved-ones in the outside world and also to capture the events we are part of. It expresses a double interpretation of our presence in the world—both '*I* am here' and 'I am *here*'.

As the role of the mobile phone in society has changed—rapidly developing in complexity as subscriber numbers leapt exponentially during the late 1990's in Europe and Asia—we have seen a rapidly developing body of research into its social and cultural effects. It is this explosion of research that this volume aims to capture, from both academic and industry perspectives. At times, the social research into mobile phones has been dwarfed by the concurrent social research into the Internet. The past decade has seen two simultaneous technological revolutions in communication, and we are rapidly heading towards the convergence of them both. The new century has seen a steadily growing body of research into the mobile phone develop, lead by the writers in this volume, that establishes some clear basic tenets for our understanding of the crucial role the mobile phone plays in people's everyday lives.

The over-arching theme of this volume is to investigate the effects of the mobile phone on its user's life and on society as a whole. The book's aim is to reveal their meaning. Its title emphasises the current mode of interaction with the device: the user dials numbers, types text messages, takes pictures or navigates a mobile Internet portal like i-mode in Japan: "Young Japanese have become so adept at their phones—manipulating a set of cursor keys or a button-sized joystick by thumb—that some people refer to a new 'thumb culture'." (Joyce 2000) A Japanese schoolgirl's "thumb moved around the keyboard with the lightning dexterity of Midori playing a violin concerto. 'We call it thumb culture,' said Yumiko Hayashi, my translator. 'It's really frightening sometimes being on the subway and watching all these people talking on cell phones with their thumbs.'" (Friedman 2000) What has already been experienced in Japan around the year 2000, soon started to ap-

pear in Western countries. It is this culture of thumbs which defines the meaning of mobile phones for society.

We start this volume with a section beginning with macro-level discussions about the role of the mobile phone. Hans Geser launches the first section by considering the potentially subversive and regressive impact of mobile telephony—re-connecting the individual with a smaller, tighter social world, one which is perhaps solipsistic in its concentration on small individual social networks, oblivious to the larger institutional society surrounding it. Geser argues that the mobile phone achieves this both as an empowering technology, putting communicative power into the hands of the individual, and as a consequence of its mobility, which removes communication across society from stable and formal institutionalised channels into a de-centralised, individualised network. This freedom from the institutionalised tyranny of place and time that Geser identifies as a radical force is one which he argues points towards an almost 'anti-evolutionary' trend backwards from the homogenised culture of the many to a heterogeneous culture of the individual.

The freedom from place and time offered by the mobile phone is developed further in Jonathan Donner's chapter on how the mobile phone is effecting social change in developing countries. Donner's is the first of three chapters in this volume that provide regional focus from around the world for social and ethnographical studies into changes caused by the mobile phone. In Donner's study of Rwandan users, the mobile phone is an expensive and treasured item, used in the main by small individual businessmen and women, where it has the power to expand the horizons of their business and open up their workplace and work schedule, allowing them to organise their work effectively in a way previously unthinkable. In one case documented by Donner, a small restaurateur is able to develop, via the mobile phone, the kind of simple 'just-in-time' stock control management and delivery techniques that large corporations spend millions on IT systems and consultancy to replicate at their scale. At either end of the scale, the business impact of the technology is simple, and is experienced by both Donner's Rwandan restaurateur and large multinational corporations alike. The technology provides a freedom to move through time and space and stay connected to the business, to make decisions for the business, and to run the business according to an ever-changing micro-schedule.

From negotiating individual businesses we move to negotiating the business of being individual in Larrissa Hjorth's study of mobile phone personalisation in an Australian sample group. Hjorth sees the sending of text (SMS) and picture (MMS) messages as crucial to the maintenance of personal social connections. At the centre of this activity is the mobile phone itself, both as a machine for sending messages,

and as an artefact that displays a message about the individual users via the personalisation choices they have made. By choosing screensavers, ringtones and faceplates for their phone, Hjorth documents how the users in her study are able to manage the display of their own identity (a fetishisation of the object discussed further in this volume in Leopoldina Fortunati's chapter). Hjorth sees this personalisation as a performative act, after Judith Butler's definition, which proves that gender and identity are not innate but are constantly practised, rehearsed and expressed in everyday life. In the case of the mobile phone, personalisation is therefore seen as an extension of this performative acting of gender and identity, the phone taking on the practised identity of the individual and, through its broadcast of these individual identities via faceplates and ringtones, disseminating this into the immediate social environment of the user.

Genevieve Bell develops these themes of identity management further to look across Asian societies to see how the mobile phone is used to maintain individual identities and social roles within families and tight-knit social groupings. Bell documents how the technological advances of the mobile phone enable new ways of navigating the often complex social structure of Asian society. Rigid hierarchies in such cultures can be more easily deferred to when the name of the caller is displayed to the user before a call is taken. Amongst other things, Bell reveals how one Korean user uses five different ringtones to differentiate five different social groups. This enables the user to prepare the right formal greeting to use before accepting the call, ensuring that she does not offend whoever is calling her. This is an interesting development of the use of ringtones—a movement away from the ringtone identifying the individual owner to the ringtone identifying the social group of the caller—which points to the complex way in which similar technological developments have been utilised for quite different social tasks in cultures across the globe. Bell also discusses how the mobile phone is used specifically to negotiate social interaction between family members, not only in maintaining hierarchies but also in providing a sense of security. Mobile phones are bought for children so that they can be used to communicate with them, but also as a form of *fort/da* game that parents perform with their children, whereby the phone provides a constant umbilical link spooled out from parent to child that the parent is able to use to reassure them of their child's safety and security.

The next two chapters look at these tight familial interactions in more detail. Leslie Haddon builds on his growing body of research into telephony usage by considering what specific problems emerge as sites of tension between groups of users. Haddon uncovers how miscommunication between generations can transfer into mobile phone usage. These communication problems, argues Haddon, stem from fixed-line

telephony and are exacerbated by mobile phones. In particular, Haddon discusses how the frustration we often feel when dealing with voicemail and answering machines increases with mobile telephony where there is less chance of the receiving party being genuinely 'out' and unavailable.

Familiar issues about price emerge as motivating factors in conflicts, and the negotiation of the cost of mobile phone calls between family members—specifically parents and children—is a theme returned to in Richard Harper's chapter. Here Harper sees the negotiations around price not as something specific to mobile phones but as an example of a general theme of discussion that the parent has with the child as part of their efforts to prepare them for entering a larger social world than the family. Almost comically, one father in Harper's study refers to his annoyance that his children have stolen his sausages from his fridge. It is not the fact that the sausages have been eaten that annoys the father—he would hardly deny his children food—but the theft is indicative of his children's lack of economic awareness. Harper sees conversations between parents and children like these—about missing sausages, and also about the cost of mobile phone bills—as symbolic, as they are not intended to limit the child's consumption, but more to open a discussion that may make them more aware of the economic and social consequences of their actions. Negotiating phone bills within families is, therefore, a method some parents use to try to prepare their children for a time when they will have to take responsibility for their actions. The management of the mobile phone becomes an activity where moral and ethical codes are discussed with the children.

In the second section, we move away from the macro focus that began section one and begin to focus more tightly on small social groups and the individual, and we begin to approach the subject from a more philosophical angle rather than a sociological one. Continuing on from the focus on the family in Haddon and Harper's chapters, Jane Vincent considers the emotional range of the usage of the mobile phone to maintain relationships between family and friends. As well as the positive emotional associations users had with their mobile phones, Vincent identifies alarming feelings of panic and anxiety amongst users that seem to indicate that the growing reliance we place upon the mobile phone as a device for social connectivity comes with a price when the device is absent. This emotional attachment to the mobile phone is a consequence, Vincent argues, of the investment we have made in our handsets. As well as being personalised—as previously discussed in section one—these devices become the repositories of our memories and social connections in the phone numbers, photos and messages that they store. The phone becomes an icon of 'me, my mobile and my identity' (see Hulme and Truch in this volume), something that embodies our social and emotional life rather than just merely enabling it.

Jane Vincent also identifies the growing problem of managing a private emotional life via what is essentially a device designed for use in public environments.

This is expanded in Joachim Höflich's chapter, which goes on to develop an understanding of the dynamic between these private personal and public social spaces. Höflich sees the phone as an 'indiscreet' technology, one which leaks the personal into the public in a way that mirrors a growing cultural trend across all communications media—for example, as in the growing trend for intrusive reality television such as *Big Brother*. Höflich points out the conflict of this dual public/private role of the mobile phone. Social networks sustained by mobile phones are intensely private—there is no public directory of mobile phone numbers — and yet the contents of the conversations within these private social networks are often performed in very public spaces. Höflich takes a European perspective within his study, detailing data from his research that shows where there are distinct cultural differences between sometimes close neighbouring countries in what is perceived to be permissible and what is not in public mobile phone usage. What is clear is that concepts of public and private space regarding mobile phone usage do no travel well—behaviour accepted in the Nordic countries is not in more Mediterranean countries, and vice-versa. It is clear that the mobile phone redefines the sense of personal and public space, whilst also reflecting what may perhaps be more deeply rooted national cultural and social behaviours.

These concepts of social spaces return in Michael Hulme and Anna Truch's chapter on 'Interspace', in which a new field in between the established ones of home, work and social lives is developed. Hulme and Truch argue that the mobility of the device allows what has previously been a transitory space to become a social field in its own right. Following on from spontaneous comments from the subjects in their study, they define this space as increasingly important. Throughout the present volume, the way in which the mobile phone stretches boundaries of social time and space is returned to. In this chapter this stretching opens up a whole new territory, which becomes a place of negotiation that exists in the travels the individual subject makes between the more formalised spaces. Echoing comments made by Hans Geser in the first chapter, Hulme and Truch define this space as one of transition between established, more formalised fields; one of overlapping fields—in interspace the individual is juggling roles from a variety of social fields, creating a subjective habitus, to borrow from Bourdieu, managing many social identities via the device. The strategies needed to manage this new social space are complex, but we can find evidence in previous chapters of how the very technology that created this space can also provide tools to manage it (Genevieve Bell's Korean subject using ringtones to manage her many identities comes to

mind). Again, the phone amplifies multiple social identities for the user as well as providing a means to manage them.

Leopoldina Fortunati has lead the academic field in recent years in her research into this transformative personal effect of the mobile phone. In her chapter in this volume she specifically focuses on how we come to associate ourselves so tightly with the device that it becomes a fetishised technological artefact. Looking at the design of the mobile phone (something Laura Watts discusses in her later chapter), Fortunati discusses how the mobile phone becomes fetishised because of our investment into it of our complex emotional feelings (as discussed by Jane Vincent in this volume). Fortunati sees the mobile phone, distinct from other technologies, as being the most able to be fetishised through the senses, through fashion, through the synaesthetic properties that we can design into it, until it almost disappears as a technological artefact, becoming 'a more fashionable and seductive object, somewhere between accessory and jewel'.

Kristóf Nyíri then neatly encapsulates a number of the threads throughout sections one and two, proposing that mobile communication is actually a retrogressive step, returning us to a more immediate, unalienated form of communication that relies heavily on the visual and the oral via MMS messages and voice calls. Again echoing the chapter by Hans Geser, Nyíri argues that the phone re-establishes a sense of personal, micro-social community that is in direct contrast to the more formalised, structured organisation that has been prevalent in modernist thinking. This is a 'new-old age' in which the mobile phone 'promises to re-establish, within the life of post-modern society, some of the features formerly enjoyed by genuine local communities'.

We close the second, wholly academically focused section of the book with James Katz's summation of current research trends and his forecasts of the future research trends which seem to be emerging. Katz has been a leading light in the development of research into the social impact of mobile phones for a number of years, and it is fitting that he closes this section with predictions of where the research area is headed next.

The third section of the book provides a variety of perspectives both from and on the mobile phone industry. As mobile saturation increases, operators find it harder and harder to differentiate themselves in the marketplace. Two chapters discuss this aspect in particular. Initially, Raimund Schmolze discusses the many problems faced by mobile operators in trying to develop and market the products that a divergent, segmented customer base requires. Operators have had to develop strategies as quickly as the industry has developed, and in recent years have found themselves increasingly moving away from their core market of voice service provision to becoming anything from fashion brands to putative multimedia companies. The variety of skills needed

to manage these tasks has seen operators stretched to their limits, and from an industry perspective Schmolze discusses how this challenges operators both now and in the future. From the consumer's perspective, Peter Gross and Stefan Bertschi discuss how a customer navigates such a 'multi-option' society. Bewildered by choices—not just in service level and provision but in the way these products are coded with brands that suggest identities and cultural behaviour—how is a consumer to relate to such a plurality of options?

From one of the industry's governing bodies—the International Telecommunication Union (ITU)—Lara Srivastava examines the mania that has accompanied the exponential rise in mobile phone usage, arguing that a whole new set of mobile manners have emerged that are in use in different cultures around the world. Srivastava's perspective on mobile culture allows us to approach recent industry developments from an academic standpoint, as does Nicola Döring and Alex Gundolf's chapter on the development of 'moblogs' or mobile weblogs. Pointing to the convergence of mobile and Internet technology, 'moblogs' provide a means for users to archive their lives via photos that can be taken via a mobile phone and viewed via the Internet. Nokia have named their product to provide this service 'lifeblog', and it is this uncensored publication of everyday life that Döring and Gundolf investigate, from subjects as mundane as a user capturing his waking state everyday, to as personally and globally historic as the moblog by a US soldier in Iraq. What we are seeing in the 'moblog' is how organically some product development is in the mobile world—the early moblogging software came not from operators, handset or software manufacturers but from the social software community that thrives on the Internet. It is precisely this level of organic, spontaneous product development that occurs as a by-product of networked communities that many companies seek—and often fail—to emulate. Laura Watts offers us a (partially fictionalised) ethnographic account of how this is being attempted within the mobile handset design industry.

Finally, we close the third section of the volume with two strikingly divergent views from senior industry figures on where the future of the mobile industry lies. Paul Golding points to a technologically-led future where the convergence and increased performance of mobile phone hardware and software, coupled with the continuing miniaturisation of the components, will lead to more reliance upon the phone in everyday life and also the disappearance of the technology as artefact—as suggested by Leopoldina Fortunati earlier. Nick Foggin, however, is more circumspect in his predictions, suggesting that existing data products have been a draw on precious resources for operators, neither generating revenues nor serving the needs of the consumers they are supposedly developed for. Foggin closes by suggesting that it is time we accept (as Jane Vincent suggests in her chapter) that it is the positive

reinforcement of person-to-person communication in which the mobile phone excels, not as a one-size-fits-all super-computer in our pockets.

We conclude the book with the project that initiated both this volume and the one-day symposium at the London Science Museum in 2004 that many of these chapters come from. Peter Glotz and Stefan Bertschi have managed a Delphi study involving a collection of industry and academic experts that investigates opinions across all aspects of social and cultural developments concerning mobile phones. Whilst it draws some conclusions, opinions are clearly divided. What is clear is that whilst the future development of both the industry and academic study are unpredictable, the almost tyrannical hold the mobile phone has on our lives now is far too tight for it to be loosened and ebb away.

Finally, before letting the reader explore the cornucopia of meanings of mobile phones for society, the editors should like to thank all of those who helped to realise this book. They are too many to be listed here—amongst them are the many contributors and all others who know that we are grateful for their support. The research project 'Thumb Culture' was carried out in cooperation with and funded by T-Mobile International. Without their initiative the present volume would not exist. With transcript in Bielefeld, Germany we are glad having found a particularly suitable publisher for our volume. Karin Werner and Gero Wierichs made it a pleasure to bring our vision into the present shape. Now we hope that the reader has as much fun and valuable insights reading this book as we had bringing it to life.

References

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