ON THE MOBILE

the effects of mobile telephones
on social and individual life

Dr SADIE PLANT

INTRODUCTION on behalf of Motorola

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ACKNOWLEDGEMENTS

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When Neil Armstrong uttered those historic words from the moon in 1969, it was Motorola technology that allowed him to be heard back on Earth. Now, in the 21st century, Motorola is helping individuals, communities and pioneers take their own giant leaps forward by making the most of a digital revolution which is changing the way we work, play and talk with each other.

Today, the smallest Motorola phone has as much computing power in it as the largest, most expensive computer did less than a generation ago. We live in an age of intelligent machines that are in perpetual communication, creating new networks of knowledge, information and empowerment across the globe. And from mobile phones with constant internet access to smart cars that help you find your way home, Motorola is helping build a future that's safer, simpler and more smartly synchronised. But at the heart of any technological change is the human experience. And it's in understanding how the digital world is being experienced by all of us, as friends, colleagues and families, that we can gain the most insight into the shape of things to come.

Motorola commissioned Dr Sadie Plant, one of the world's most advanced thinkers in the field of human relationships with technology, to investigate how the world's citizens are exploiting the mobile telephone revolution, and produce a report which would inspire Motorola staff as we thought about the next generation of communication technology.

We felt that *On The Mobile* provided such fascinating new insights into modern culture that it was worth sharing with others. As well as helping us to understand what more we can do for our customers, *On The Mobile* will help everyone understand a little more about the revolution we are living through and provide inspiration as we move into the future.

Introduction

By Dr Sadie Plant

This report is the result of a global enquiry into the social impact of the mobile phone. In French it is called *le portable*, or *le G*, which stands for GSM. The Finns have adopted the term *kanny*, which sprang from a brand name but also refers to an extension of the hand. In German it is the *handy*; in Spanish it is *el movil*; Americans still call it a cell phone. In Arabic it is sometimes called *el mobile*, but often a telephone *sayaar* or *makhmul* (both of which refer to carrying) or a *telephone gowal* (air telephone). In Thailand it is a *moto*. In Japan it is *keitai denwa*, a carried telephone, or simply *keitai*, or even just *ke-tai*. In China it is *sho ji*, or 'hand machine', although the early mobile was a *dageda*, which literally means 'big brother big' and is often translated as 'big brother' – not a homage to George Orwell, but a simple nickname for what were then large, bulky devices, as well, it is said, as a reference to the cool triad bosses of Hong Kong cinema who were seen to carry mobiles for years before their use became widespread.

Whatever it is called, and wherever it is used, this simple, accessible technology alters the way in which individuals conduct their everyday lives. It has extensive implications for the cultures and societies in which it is used; it changes the nature of communication, and affects identities and relationships. It affects the development of social structures and economic activities, and has considerable bearing on its users' perceptions of themselves and their world.

This report is informed by the interests, themes, and methodologies of several areas of study, including psychology, social psychology, sociology, anthropology, cultural studies and philosophy. While such interdisciplinary approaches are common to many studies of the cultural effects of technological change, few of the models and hypotheses developed in relation to other new communications technologies can be applied to the mobile without the risk of obscuring what is truly novel in the wireless world. The mobile needs a fresh start and an open mind.

The primary research was conducted in eight major locations: Tokyo, Beijing, Hong Kong, Bangkok, Peshawar, Dubai, London, Birmingham and Chicago. While these cities are by no means representative of their regions, or of the wider world, the international scope of this research has made it possible to identify significant ways in which local economic, technological, political and cultural conditions shape the use and perception of the mobile.

A wide range of individuals were interviewed about their use and perception of the mobile phone, their attitudes to other mobile users, and their sense of the mobile's social and cultural effects. Interviews – some structured, some more open-ended – were also conducted with small groups of schoolchildren, teenagers, blue-collar workers and professionals. E-mail interviews were also

conducted with contributors in parts of Europe, Africa, and South America in order to broaden the geographical reach.

Most, but not all of these contributors were mobile users. The opinions and analyses they expressed were often well-informed and articulate, and many of them had already given considerable thought to the effects of the mobile on their lives, and its implications for their societies. As the research progressed, some of the most interesting emergent themes, anecdotal evidence and tentative conclusions were discussed with several of the groups, and many of the later interviews became opportunities for the mutual exchange of information and ideas. Together with the sophisticated nature of their contributions, these approaches made it possible to go some way towards breaking down the distinctions between interviewees and interviewers which can often compromise such ethnographic work.

In addition to these interviews, the research draws on extensive field studies involving the observation of people's behaviour and actions in relation to mobile phones, and attention to the form and content of their conversations and messages. Photographic evidence and detailed notes were taken in a variety of locations, including open public spaces such as streets, parks, markets and malls; and enclosed spaces such as restaurants and bars, airport concourses and hotel lobbies, and trains, buses, ferries and trams. All this has resulted in the following report: an account of how different people around the world are using this fascinating technology, together with some informed speculation as to what its use might tell us about ourselves at this point in our history.

A note on Locations

Mobile phones have made their presence felt in almost every region of the world. They are particularly popular in South East Asia, where the longstanding popularity of pagers meant that a nascent mobile culture was already in place when the mobile phone arrived. Even in the mid-1990s, Saigon's more affluent teenagers were calling their friends from the city's new bars and cafes. In Hong Kong, it is difficult to find anyone without a mobile phone. In Bangkok, where little more than five per cent of the population owns a mobile, the city is alive to the sights and sounds of mobility.

While mobiles are owned by less than seven per cent of the Chinese population, they are common on the streets of cities like Shanghai and even more conservative Beijing. China is projected to be the world's largest mobile market within the next couple of years and, as has long been the case in Hong Kong, teenagers, students and young people are already some of the

country's most frequent and enthusiastic mobile users. Mobiles are less common in the Chinese countryside, where they often remain in the hands of a favoured few entrepreneurs and party officials.

Of the many places in which mobiles have become widespread, Tokyo must be the city in which they have become the most conspicuous. Their popularity has been encouraged by the fact that many people live and commute in confined spaces, which makes them reluctant to own or carry something as large and heavy as a laptop, but delighted to pocket a small, light, multifunctional keitai. The mobile is often people's primary means of accessing the internet, and has become integral to so many aspects of everyday life that its absence seems almost unimaginable.

Things could hardly be more different in Peshawar, the capital of Pakistan's North West Frontier Province, which lies on the border of Afghanistan and is home to many Afghan refugees. In Peshawar, mobiles tend to belong to people engaged in business, politics, or war, and although increasingly popular with students and young professionals, their use is still low.

Further West, the mobile phone has been welcomed by much of the Arab world. In Lebanon, which now has an efficient land-line telephone system, the mobile received an early boost with the collapse of the fixed-line phone system during the civil war. Elsewhere, long distances and harsh environments have often made the mobile a valuable alternative to the fixed-line system. Growth rates in Egypt and Morocco are among the highest in the world; and mobiles are extremely popular in Bahrain, Kuwait, Oman and several other states in the Arabian Gulf. In the United Arab Emirates, more than 50 per cent of the population use a mobile. The figures are far higher in the oil-rich city of Dubai, where many Arab nationals have time and money on their hands, and have become enthusiastic and demanding consumers of the latest, smallest, coolest phones. Mobiles are also ubiquitous among Dubai's large population of ex-patriot workers, including the sailors, porters, merchants and smugglers who work on Dubai creek.

In Europe, Scandinavia has leapt ahead in the ratings, but several other countries, such as Austria and Italy, have exceptionally high rates of mobile use, and mobiles are owned by more than 50 per cent of the population. The percentage of mobile users is higher in Britain than in France or Germany, and the UK's mobile users also tend to be younger than in many other European countries. The two UK cities in which research was conducted, London and Birmingham, also have an unusual degree of cultural diversity which makes them particularly suitable locations for this research. Mobiles are statistically common in America, where they have changed the lives of many particular groups and sections of society. But they appear to have made far less of an impact on the cultural consciousness of America itself.

1. Rituals

All around the world, the mobile has become associated with a handful of phrases which recur like samples in a global dance track. These include 'on my way', 'on the bus', 'on the train', and other answers to a question which is now so common that it has come to define the mobile age: 'Where are you?' If this is the perfect mobile question, the perfect mobile answer is 'on the mobile.

Beyond these mantras, it is the mobile phone itself which has really changed the sonic world. The warbles, beeps and tunes of the mobile have become so common that their calls have begun to constitute a new kind of electronic bird song, changing the soundtrack of the cities and altering the background noise in regions as varied as the forests of Finland and the deserts of Dubai. Many urban song birds have become adept at impersonating mobile tones and melodies. 'The phenomenon has been noticed mainly among starlings – distant relatives of the mynah bird – and song thrushes, although the blackbird and the marsh warbler are not immune.'[1] and human artists have also pursued this theme: a recent London show, *Telephony*, invited its visitors to call one of a bank of mobiles, each programmed to sing and call each other into song.[2] Brian Duffy, a Birmingham-based sound artist, is modifying toy mobiles to turn them into elements of an electronic orchestra.

Many people feel irritated and disconcerted by this new electronic soundtrack. All ringing phones are disruptive, even arresting. As Marshall McLuhan observed in *Understanding Media*, an incoming call provokes a sense of expectation, even urgency, which is why usually feel compelled to answer a ringing phone, even when they know the call is not for them. Like a calling bird, a ringing phone demands a response. Public uses of the mobile spread this tension to all those within earshot, while leaving them powerless to intervene: only the person to whom the call is made is in a position to respond.[3]

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[1] Chris Gray, "Now birds brag by mimicking mobiles", The *Independent,* 15.5.01
[2] Telephony, a show by Jon Thomson and Alison Craighead, at the Mobile Home Gallery, London, 2001
[3] This also accounts for the profound sense of melancholy associated with unanswered calls, especially when, as is often the case in the wake of train crashes, car accidents, or natural disasters, mobile phones keep ringing long after there is anyone to answer them.

Mobile calls can come at any time, at any place, and in the company of any number of onlookers and eavesdroppers. The etiquette of handling such interventions has become a matter of some debate, and in many parts of the world, the ability to handle them – on the part of the recipient and all those within earshot – has become an important social skill.[4] A ringing mobile will often take precedence over the social interactions it disrupts: the need or desire to answer a call often outweighs the importance of maintaining the flow of face-to-face conversation. This is why even a silent mobile can make its presence felt as though it were an addition to a social group, and why many people feel that just the knowledge that a call might intervene tends to divert attention from those present at the time. The mobile tends to siphon concentration, demanding attention even when it is not in use; for many couples, its presence can be as powerful and distracting as that of a third person. Some contributors to this research suggested that the mobile functions as a **gooseberry phone** – an unwanted addition to the pair. In the UK, a few people admitted to making **gooseberry calls** to friends out on dates in order to get a progress report.

The receipt of a public call tends to be met by one of three responses. These are **flight**, in which users immediately move to absent themselves from their social situation; **suspension**, in which recipients stay put, but stop whatever they are doing for the duration of a call and effectively cut themselves off from their environment; and **persistence**, in which users stay put and engaged with the actual world, as far as possible carrying on with whatever they were doing before they made or took the call.

All these responses run some risk that people who are present at the time will feel abandoned by the person who has answered the mobile, and in so doing has opted to be answerable to the device rather than to them. Several American contributors to this research drew attention to the disempowering effects of situations in which they felt as though they were being dropped and picked up by their companions without any chance to negotiate the terms. As well as regarding the mobile monologues of passing strangers as inappropriate and unwelcome impositions on their personal space, they expected calls to be deferred or at least taken out of earshot when in the company of friends.

Observers tend to be more tolerant of users where mobile use is longstanding and high. Users also tend to be more considerate, more sensitive to their surroundings than their counterparts in

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[4] Peter Laufer, *Wireless Etiquette: A Guide to the Changing World of Instant Communication,*

countries where the mobile is less integrated into the conduct of everyday life. Users in more mobile countries are also more likely to use their devices for purposes other than telephony, and much of this use is inoffensive and discreet.

Among small groups of friends or associates, mobile conflicts are often avoided by the group's tacit adherence to a shared set of values, practices and rules. There seem to be two broad kinds of group at work here: innies and outies. The first, the **innies**, are those groups for whom the mobile is used unobtrusively. When calls are made or received, it is usual for members of these groups to leave the table or, at least, to nod an apology and turn away from the others: here, the basic response is flight. Members of these groups display an unwillingness to interrupt the present conversation and, if they do so, they will often use their bodies to establish boundaries by, for example, turning away, or by leaving the table completely and so absenting themselves from the group. While this may be a simple act of privacy, it may also be acknowledgement of the rules which are tacitly accepted in such groups. These are micro-cultures in which the phone is tacitly regarded as an outsider, and something which should not be given priority over the demands of those present. While people rarely discuss such rules, there are clearly groups and contexts in which they do emerge.

A markedly different, but equally harmonious, approach to the mobile is displayed by **outies**, for whom the mobile is far more readily and smoothly integrated into the processes of group interaction. These are groups which tend to have a very high preponderance of people with their mobiles on display. Often they are placed on the table or the bar as though to announce their owners' arrival and inclusion in the group: it may be that a little patch of territory, or at least a stake in the group, is being claimed with this move. Their primary mode is persistence: on receiving calls, these mobile users are likely to remain in their seats, even maintaining both the mobile conversation and the one in which they were engaged before the call. The mood of these groups is generally more sociable, chatty and playful. For some of them, the mobile serves as the focus of their exchanges.

A third category of mixed groups also emerged from this study, and it is here, with combinations of 'innie' and 'outie' behaviour, that conflicts can arise. These are the groups for which the mobile often functions as a source of tension, disagreement, and antipathy. In these groups, there are clear signs of tension when the mobile is used without consideration of the present company. The

interruption of a mobile call tends to split these groups, and often results in those responsible – the mobile users – being excluded by the tangible disapproval of the others. Their irritation is often reflected in their body language – backs turned, arms folded, bodies turned elsewhere.

Several contributors described the strategies with which they dealt with other people's mobile use. These include studied disinterest, in which they make a point of conspicuously ignoring the conversation; displaced attention, in which they find some other task to occupy them for the duration of a call; and some kind of direct or indirect censure, in which users are criticised either to their face or to other bystanders or members of a group. Such censure can be extreme: in 1998, a German businessman died in a fight provoked by what was perceived to be ill-mannered use of his mobile. In more usual circumstances, people who judge or comment on other people's mobile use are often contributing to the collective cultural processes by which rules and standards of behaviour establish themselves.

2. Contexts

If the nature of a social group is important to mobile behaviour, location is equally significant. Certain kinds of spaces have already been deemed inappropriate for mobile use: there are restrictions on the use of mobiles while flying, driving or in hospitals. Trains in Britain, Japan, Switzerland, and the US now have 'quiet cars' or carriages. Restaurants in cities as diverse as Cairo and Chicago have introduced 'no-mobile' policies or 'mobile-free' zones in an attempt to maintain the senses of privacy and personal space which are considered crucial to their atmosphere.

Two studies conducted for this research in London and Birmingham suggest that, even in the absence of such rules, many mobile users behave very differently in different social contexts. The research focused on two neighbouring street-side cafes in London's Covent Garden, and two similar establishments in the Brindley Place area of Birmingham. In both cases, the neighbouring cafes were distinctive, with one offering tablecloths and service at the table, and the other providing no tablecloths and infrequent service or self-service at a bar.

	Location	*Tablecloths*	*Service*	*Tables with mobiles at 14:00*	*Tables with mobiles at 17:30*
Venue 1	Convent Garden, London	Yes	Waiter / waitress service	2/16	3/16
Venue 2	Convent Garden, London	No	Infrequent service	4/12	5/12
Venue 3	Brindley Place, Birmingham	Yes	Waiter / waitress service	2/14	2/14
Venue 4	Brindley Place, Birmingham	No	Bar service	5/18	6/18

Although there was no explicit interdiction regarding the use of the mobile at the more formal cafe tables, mobiles were less likely to be seen or heard in these establishments than in the less formal contexts. At both times of day, and in both cities, mobiles were displayed at a higher percentage of informal cafe tables than at the more formal establishments. In the early afternoon, mobiles were on show at 30% of the informal tables, but only about 13 per cent of the formal

ones; in the late afternoon, these figures rose to approximately 37 per cent and 17 per cent respectively. This suggests that even in the absence of explicit regulations, the behaviour of many mobile users is affected by the tacit, understated details of their environment – as if there are phone-class and non-phone-class environments. People are relatively uninhibited about showing mobiles at less formal tables, but it seems that the presence of waiters and waitresses or tablecloths mitigate against such displays. This may be because tablecloths and the other trappings of more formal establishments are associated with a certain, more ritualised social activity – dining out – from which it may be felt that mobile phones and all their actual and potential interruptions should be excluded. The presence of a waiter or waitress also brings more formal tables under a loose form of surveillance, and this may also tend to inhibit the use and display of mobiles in such contexts.

3. Men, women and mobile displays

Although few significant gender differences were observed in the course of this research, there were some differences in the ways people handled and reacted to public calls. In a claim disputed by many men, many Western women feel that they are much quieter and more considerate than their male counterparts when making mobile calls, and some contributors also suggested that gender differences do arise in relation to the display of the mobile phone. Professional women in Chicago said that their male peers were inclined to show off with their mobiles, using them as symbols of status or even virility, and much anecdotal evidence – and some earlier research – has suggested that the mobile is widely used for psychosexual purposes of performance and display.

Research conducted in London confirmed this to some extent, but also produced a rather more complex picture of the ways in which women and men display mobiles. This research was conducted in and around bars in Soho and Covent Garden, and focused on the visible presence of the mobile on tables occupied by two people. It paid no attention to the possible unseen presence of mobile phones, or to the nature of the relationships at work in these pairs, which may or may not have been composed of partners, couples, spouses, relations, colleagues or friends. It involved the observation and analysis of the frequency of mobile phone display among three different categories of pairs: men, women and mixed couples. Lone women and men were also observed.

In the majority of pairs of men, at least one mobile was on display: in only 38 per cent of observed pairs was there no mobile on display, compared to 42 per cent of male and female pairs, and 50 per cent of female pairs. In the majority of observed male pairs, both parties had their mobiles on show. Some contributors to the research suggested that this reflected a degree of competitive behaviour among men, with the presence of just one mobile indicating a subtle play of dominance and subordination in which the male who displays his mobile is also asserting his position as the pair's main contact with the wider world. A number of males also confessed to being inhibited when their companions displayed mobiles of a higher specification or aesthetic quality than their own. Others said they had been keen to display their mobiles while they were top-of-the-range or state-of-the-art, but had stopped doing so when their models fell behind.

When a mixed couple sits down together, there is a high likelihood that the male party will be the only one to have a mobile on display: this was the case in 32 per cent of mixed pairs, while women were the only parties displaying their mobiles in just 10 per cent of cases. Some contributors suggested that this reflects some tacit acknowledgement that the male party is acting as the point of contact for them both. Others were inclined to see this as a sign that women are

more likely to see the mobile as a problematic intrusion and are correspondingly more sensitive to the demands of face-to-face conversation.

Rather more surprising were the observations of women not in the company of men. While half the pairs of women observed in this study had no mobile on display, and only 12 per cent of female pairs had just one mobile on display, there was a high chance that both of them would put their mobiles on show: in 38 per cent of the women-only pairs, both parties had their mobiles out. It seems that if one party puts her mobile on display, there is a tendency for the second to match or synchronise with her companion's behaviour. Unless both parties implicitly agree to include them, women seem more inclined to keep their mobiles out of the conversation by keeping them out of sight. Women in the UK and several other locations agreed that they tend either to keep their mobiles at a distance when they are together, or to engage in conversations of the kind which involve some reference to the mobile, or even its collective use. It was also observed that 60 per cent of lone women had a mobile on show – a far higher percentage than that of lone men (47 per cent), men together, or men with together with women. Many women saw this reflecting their own experience of the mobile as a valuable means of keeping unwanted attentions at bay. A mobile projects an image of self-containment, and can even legitimise solitude: I'm not alone, I'm with my mobile phone.

While the public display of a mobile is often a matter of fashion, style, covert social messages and hidden agendas, it should be remembered that it is a functional device whose display is often nothing more than a practical need to keep it to hand. The ways in which this is accomplished vary in different parts of the world, and these differences can have a considerable bearing on the ways in which mobiles are displayed. Many Western men tend to carry their mobiles in pockets or in the hand, and may therefore be more inclined to put them out on a table when they sit down, while in many regions of Pacific Asia, it is fashionable for men to wear their mobile phones on hips, often in holders or cases clipped to belts. By the same token, many Western women tend to carry their mobiles in bags, and might be thought less likely to bring them out because they are to hand even when they are not in view while, as has already been observed, their female counterparts in Pacific Asia often carry mobiles in small pouches worn like necklaces. The porters who pull the heavy trucks along the wharf on Dubai creek tend to keep them in their shirt pockets so that they can reach them without setting down their loads; Arab women prefer robust models which can survive life in voluminous handbags.

In both Britain and Japan, some British teenagers said that their use of the mobile was becoming more discreet: several boys in the UK used the word 'sad' to describe people who flashed them around too much, and in Tokyo, where the latest trend is for even the most fashion-conscious teenagers to carry their mobiles in pockets or bags, designers have responded to this need for

mobiles to be concealed but accessible: bags, jackets, and loose combat-style trousers often have pockets designed to keep the keitai close at hand. Teenagers are particularly aware of the fashion aspects of their mobiles, competing to acquire the latest, coolest models and to customise them in the latest, coolest ways. Everything from the colour of the handset to the sound of its ring tone, and the logos and graphics it displays can be given a personal touch. Teenage girls in Hong Kong have their mobiles festooned with stickers, trinkets, straps and toys which flash or sparkle when a signal is transmitted or received. In many parts of Pacific Asia, girls wear their mobiles as functional jewellery: in Bangkok they are carried in fur-edged plastic pouches worn as necklaces; in Beijing the pouches are often crocheted or made from Chinese silk, and sometimes adorned with the characters for good fortune or happiness.

Far more than the external qualities of the phone can be used for social effect. Teenagers have found ways to use mobile calls and messages to bully and harass, and young people without mobiles can feel – and really be – excluded from the social networks to which their friends belong. Teenagers often use their mobiles collectively, sharing information and showing each other messages, as well as comparing the frequency, the nature, and the variety of the calls they make and take in rather more competitive ways: did their last 10 calls come from a parent or from friends? How cool are their stored text messages? How many tricks and short-cuts do they know? How daring and imaginative are their calls? How many numbers do their phone books hold?

4. Speeches

As Erving Goffman pointed out, 'a conversation has a life of its own and makes demands on its own behalf. It is a little social system with its own boundary-maintaining tendencies; it is a little patch of commitment and loyalty with its own heroes and its own villains.'[5] To overhear a conversation is to listen in to one of these worlds. To overhear just one of its sides is to be neither fully admitted nor completely excluded from its world. This can meet with many different responses. As a frequent and unwilling third party to other people's mobile conversations, a young teacher in Chicago said that she found such enforced eavesdropping more frustrating than intrusive: she wouldn't mind so much if she could hear both sides of the conversation, but instead found herself drawn into speculations about the missing the sides of dialogues in an attempt to fill the gaps. One commuter in Birmingham expressed irritation about all mobile calls she overheard, but her travelling companion said she was annoyed only by 'boring peple and bland conversations': some of the half-conversations she overheard were better than soap operas on TV, and all the more engaging because they allowed her to speculate about the unheard and unseen end of the line. She had built up vicarious relationships with the people she saw everyday, and felt concerned and engaged with their lives. 'I often hope to hear the next episode,' she said, 'and I'm disappointed when they get off the bus.'

Several artists have explored the creative possibilities of mobile speech. In the UK, Robin Rimbaud, known as Scanner and sometimes referred to as the 'telephone terrorist', has produced soundscapes featuring snippets of mobile conversations. In the US, Chicago-based poet William Gillespie has composed poetry based on eavesdropped mobile transmissions, and another artist, Spacewurm, has made music from scanned mobiles and used them as the basis of a book.[6]

For those aware of the reach and impact of their apparent monologues, low tones, private turns of phrase, or a change of location can keep most conversations discreet. But interactions with what may be two very different locations, environments or social situations will always put mobile users at some risk that the statements they make to a remote party may differ from or even contradict the messages they wish to give to the present third parties. Such situations can be awkward; they can also be used to great effect.

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[5] Erving Goffman, "Alienation from Interaction", *Communication and Culture*, Alfred G Smith, ed., Holt, Rinehart and Winston, New York, 1966
[6] Spacewurm, *I Listen: A Document of Digital Voyeurism,*

Some mobile users tend to make a virtue of the lack of privacy, enjoying and exploiting the presence of third parties as a unique opportunity to put something of themselves on display by **stage-phoning**. On a train, for example, a mobile can be used as a way of broadcasting a great deal of information to a pretty much captive audience. In some contexts, even the presence of the mobile can be used to inform the audience that this is a person with a life, a person of the mobile world. Calls can be invented for the purpose, in which case the mobile can communicate even when it is not in use. On the elevated train in Chicago, a young man talks on a mobile in some style. He's discussing an important deal and at the same time trying to impress a group of girls in the same part of the train. It all goes well until disaster strikes: his phone goes off and interrupts him in mid-sentence, and his fictional deal is exposed. At least the mobile itself is quite real: several young men in Peshawar talked of friends – never, of course, themselves – who had carried fake mobiles for these purposes of performance and display.

The mobile exposes its users to information which may not be so easily absorbed in a busy, unfamiliar or public context, requiring them to ingest what may be incongruous news and to improvise responses on the move. Many mobile users can be seen displaying confusion and hesitation as the conflicting scripts of public and private conduct are invoked by the public receipt of a private call. While the conventions of fixed-line calls are entirely integrated into the scripts and procedures of working life, the mobile makes it likely that even important business calls will be received in very different contexts. There can be something comical about the mobile user attempting the difficult task of managing a call whose purpose and emotional registers are at odds with those with around them: the conversation with a lover on a train, or with an irate boss in a bar. Certain conversations can induce emotional and bodily responses which may be quite incompatible with their perceptions of their physical location. Their participants often look as though they don't quite know what to do with themselves, how to reconfigure the tones of voice and postures which would normally accompany such conversations. The mobile requires its users to manage the intersection of the real present and the conversational present in a manner that is mindful of both.

Many mobile users have become adept at operating as though in two worlds in these psychological senses, and in more physical ways as well; in a way the mobile has created a new mode in which the human mind can operate, a kind of **bi-psyche**. In Tokyo, people are expert navigators of busy city streets, railway platforms, and subways while keeping an eye on their keitai. In Beijing, the new skill is more likely to involve riding a bicycle while making and taking mobile calls.

The volume of one's voice can be harder to manage. While the volume and the contents of many face-to-face dialogues tend to be moderated by the environments in which they occur, the mobile allows its users to believe that they are entering a private space shared only by the parties on the phone. Even the limitations of the mobile phone – the fact that one might have to strain to hear a voice on the line which is on the verge of breaking up – tend to compound this sense of involvement with the conversation and the phone itself. These illusions of intimacy can encourage mobile users to speak at volumes – and of things – which might be entirely inappropriate to the ears they reach.

In response to the novel physical and psychological demands made by mobiles, people have introduced new stances, gestures and bodily movements to their everyday behaviour, changing the ways in which the body, the fingers, the thumbs, the hands and the eyes are used while making and taking mobile calls or sending and receiving mobile messages. Many of these actions and positions have become familiar to observers all over the world, and it is possible to articulate some of the more marked and conspicuous elements of this new body language.

Public makers and takers of calls tend to assume one of two bodily postures, both of which extend and reflect the broader observations about introverted and extroverted use. Those who adopt the **speakeasy** pose keep their heads thrown back and their necks upright, giving out an air of self-assurance and single-minded refusal to be distracted by the outside world. This is an open and expansive position, confident and unapologetic.

The **spacemaker** is rather more introverted and closed, a gesture of withdrawal, particularly in the context of a busy city street. It provides ways of carving out a private arena, establishing a closed circuit from which all external interference is deliberately and visibly excluded. The head is bowed and inclined towards the phone, and the whole body may be slightly leaning, as though into the phone or towards the disembodied voice. The spacemaker may walk around in circles, stopping and starting in a bodily response to the conversation on the mobile. Many mobile users in this spacemaking mode seek out and improvise such places of comfort and relaxation from which to take or make their calls. It was observed in the course of this research that many people sitting down in public spaces – at café tables, for example, or on park benches – tend to draw their bodies up, take their feet off the ground, or otherwise create a feeling of safety and withdrawal. Alternatively, the body may be turned away from the world, perhaps towards a corner, or a wall, or even – as observed on several occasions in Hong Kong, an unused telephone kiosk – as though to protect the conversation. To this end, the spacemaker often involves the use of two hands: one to hold the mobile to the ear, and the other to block out any real or imagined external noise. In Japan, people often use one hand to shield their mobile and their mouth from public view.

Those who adopt such positions are also more likely to hold their mobile phones in the **firm grip**, with one hand clasping the mobile to the ear, as though it were about to fly away. By way of contrast, other mobile users adopt the **light touch**, in which the mobile is held with the fingers rather than the hand, in the deft or dainty pose reminiscent of the various ways of holding a cigarette. Those who use their mobiles with this light touch often have their index finger aligned with the aerial at the top of the phone.

There are also variations in the ways in which people's eyes respond to a mobile call. Some mobile users adopt **the scan**, in which the eyes tend to be lively, darting around, perhaps making fleeting contact with people in the vicinity, as though they were searching for the absent face of the person to whom the call is made. With **the gaze**, the eyes tend to focus on a single point, or else to gaze into the distance, as though in an effort to conjure the presence of the disembodied voice.

The two most common ways in which text messages and the other non-vocal functions of the mobile phone are used are also related to more open and more closed ways of holding the body and phone. Those less used to mobile devices tend to adopt **the phone tap**, often holding the mobile phone in one hand, sometimes cradling the handset in both, while using one or several fingers of the other hand to access the keypad, tapping or prodding the keys with some force. **The gentle touch** involves holding the mobile in one hand, often at a distance, and accesses the keypad with the thumb. These users are nimble and dextrous, even ambidextrous, and often so proficient that they barely need to look at the keys they use as they make their rapid entries: their knowledge of the layout has become second nature. Their movements are absolutely minimal, with the thumb simply exerting pressure rather than actually tapping at the phone. In Japan, thumbs get even more exercise: games are played with the thumbs of two hands; messages and calls are made with one or both. Tokyo's *keitai* kids are known as **oya yubi sedai**, or **the thumb generation**: '*It's not only on the keitai that they use them*,' says one man in his early 20s, to whom today's teenagers are   already   remote   and   alien   creatures: *they even point at things and ring doorbells with their thumbs*. These kids are the world's leading **textperts**.

5. Emotions

The telephone has always been important to the lovelorn and the lustful, but the personal nature of the mobile changes the nature of the roles it plays, dispensing with the old necessity to sit by the phone and wait for it to ring, but adding to the significance of exchanging numbers and making calls.

Many people say that their mobiles have made it much easier to lie about feelings and intentions, or more commonly, arrangements and whereabouts. Several contributors to the research were alive to the role the mobile can play in both licit and illicit affairs. In London, one woman said she would be suspicious if her partner had a second mobile, even though she had one herself: she trusted her own motives, but not those of her partner. Another woman had told her married lover to use a pre-paid mobile in order to avoid their calls appearing on a bill. Many contributors confessed to checking their partners' mobiles for suspicious messages and calls which were described in the UK as 'dodgy' or 'iffy'. Mobiles can certainly cause problems for philanderers. '*I'd like to turn off my mobile when I'm in bed with someone,*' said one businessman, many miles from home, '*but my wife suspects I'm being unfaithful if she can't reach me.*' A Middle Eastern salesman explained that he had '*one phone for work, one for family, one for pleasure, and one for the car*', and several people confessed to using two mobile handsets, one for general use and the other for affairs; one respondent in London referred to the latter as a **shagbile**.

Such mobile connections can feel too close: one woman in Chicago explains that she left her boyfriend because '*he called me up, like all the time. He used the cell phone to check up on me.*' Another girl in London said she always had one of her boyfriend's text message stored in case he ever looked at her mobile to see if she kept his messages.

And while some contributors to this research emphasised the permissive nature of the mobile phone, others were more inclined to see at as a means of cementing, sustaining, and managing relationships. Unable to meet her fiancé face-to-face, a young woman in Dubai described the ease with which the mobile allowed her to talk to him, sometimes while watching him across a busy street. A British Asian woman described the many times she has spoken to her boyfriend under the cover of darkness, her bedclothes, and loud music. Texting has become particularly popular with individuals and in cultures which tend to be reserved with other people: in both Bangkok and Tokyo, teenage boys and girls value texting as a means to communicate without having to voice feelings and thoughts. The demands of brevity can also encourage text messagers and e-mailers to be candid, frank, informal, even cheeky: ice can be broken, intentions declared and invitations offered, all without the risk of embarrassment.

Although there are some different approaches to mobile-phone use among boys and girls – girls to value mobiles as means of expression and social communication, for example, while boys are more likely to use them as interactive toys on which they also tend to make more perfunctory calls – there is also evidence around the world that the differences are disappearing. Several teenage girls in cities as distinct as Birmingham and Beijing observed that their male counterparts had become far more chatty and communicative since getting used to using mobile phones. '*The mobile makes it cool to communicate*,' said one girl in Birmingham.

For some people, the effortless contacts and fleeting noncommittal messages made possible by the mobile are ways of avoiding more immediate and forthcoming kinds of interaction. One Japanese service allows users to court 'virtual girlfriends' by mobile phone, and many teenagers have dozens, sometimes hundreds of meru tomo, 'e-mail friends', who may never meet and only ever know each other through the keitai. Many of these friendships involve constructed personalities and sometimes complex webs of multiple personas and duplicitous affairs. For some teenagers, such virtual friends can act as substitutes for actual friends, just as video games can replace their real lives. One Japanese student expressed concerns that younger keitai users are becoming '*less capable of direct, social communications. They rely on technology to converse. They are often intelligent with collecting information but not with utilising it, and I am often surprised by their awkward emotional responses.*' The same tendencies can be observed in Beijing, where China's only children welcome mobiles – and all other new media – as means of establishing new networks of friends to fill the gaps left by the loss of the extended family.

In many cases, the mobile is being used keep established relationships alive. A Thai girl working in Bangkok uses her mobile to keep in touch with her family in a remote village upcountry. A Filipina cook in Hong Kong uses hers to contact her children in Manila. A Beijing student says that his parents call him to check on his welfare every time they hear about bad weather or problems in the city. And in Peshawar, mobiles are used to keep in touch with relatives scattered all around the world, as well as with those much closer to home: '*Before, my father and my brothers couldn't contact me, and my mother couldn't get in touch if she was sick. Now she calls me if there is a problem. She even calls to ask me to bring things from the bazaar.*'

At the same time, these new networks can allow users to establish lives outside the family and its control. In Beijing, a shy 17-year old with shoulder-length hair explains that the mobile makes it possible for him to have relationships with friends of which he knows his parents disapprove. For this very reason, many Afghans living in Peshawar were horrified by the prospect of girls and boys making private calls, leading private lives and forming their own friendships and attachments without the knowledge or approval of their families. In the words of one young Afghan contributor: '*I do know some girls who have mobiles, but I think they are bad girls. They talk to boys.*'

The Japanese keitai certainly allows many school children and teenagers to lead lives that are totally opaque to their parents. The mobile has, for example, encouraged the popularity of the *enjo kosai*, or 'paid date'. Telephone clubs had long been popular ways for students and schoolgirls, as well as professional women and housewives, to make contact with potentially lucrative lovers. But the privacy, anonymity, and mobility of the keitai have made this kind of contact even easier: it can be used to post or read the equivalent of personal small ads – through some devices, even images as well – on countless sites; to exchange messages with the 'e-mail friends' one makes; and to make arrangements to meet.

More organised ends of the sex industry have also changed with the mobile. From prostitution to phone sex lines, the mobility, anonymity, and the sheer proliferation of phones has been a boon to the business. In China, and doubtless many other countries too, the most expensive mobiles are often owned by prostitutes, who use them not only for their work, but also as displays of wealth and status.

In Bangkok, prostitutes and dancers have found that the mobile phone allows them to make more independent and private arrangements with clients and potential customers: for them, the mobile has become an empowering device.

6. Mobile minds

According to the Oxford English Dictionary, one of the earliest uses of the word 'mobile' was in association with the Latin phrase *mobile vulgus*, the excitable crowd. Today's mobile lives up to these origins: the mobile introduces new senses of speed and connectivity to social life, establishing new kinds of relationships between individuals and with the urban crowd. In this respect, the mobile can facilitate the emergence of a new private world, a virtual community which can be pulled together in a matter of moments.

Loose arrangements can be made in the knowledge that they can be firmed up at a later stage; people can be forewarned about late or early arrivals; arrangements to meet can be progressively refined. But this kind of flexibility – we can call it approximeeting – can also engender a new sense of insecurity. Everything is virtual until the parties, the places and the moments come together to make it real. In this context the person without a phone becomes something of a liability.

This psychological mobility makes 'Where are you?' far more than a practical question. 'Where are you?' is an attempt to locate and contextualise what would other be a displaced voice, and also a recognition of the fact that mobile users operate in a dislocated, slightly schizophrenic world.

The mobile self may be displaced and fragmented, even forgetful, but it also gains a new sense of security: allies and assistants are always on call. Women in several cities said that the mobile made them feel safer, more confident, and in control, and were particularly keen to emphasise the value of the mobile as a **phone-shield** against unwanted attentions. Several Birmingham entrepreneurs say they use their mobiles as means of deliberately absenting themselves from their present environments and so keeping other people at bay: '*If I arrive at a meeting where I don't know anyone, I play for time and composure by doing things with my mobile.*' This sends out other messages to the room as well: it says that one is busy and not to be disturbed, and temporarily extends one's personal space.

This is the **hedgehog way**: one of two broad approaches observed in the course of this research. Hedgehogs use the mobile as a means of managing privacy: calls are carefully selected, and solitude is carefully edited. The alternative approach is that of **the fox**: a more dedicated user for whom the phone has become a central implement in the management of an exciting but somewhat chaotic life. Amid the instabilities of foxes' lives, the mobile is an unusually stable object, a constant to which they can cling, and device to which they become attached.

For both the hedgehogs and the foxes, the mobile is an increasingly multifunctional and lively pocket companion; an interactive object with all the qualities of a useful cyberpet. In Japan, many people use their mobiles to while away the time they have so often gained by being early to avoid being late. Older ways of *hima tsubushi*, killing time, are losing out, and although books, comics and newspapers are still read by many of Tokyo's commuting millions, the space-saving keitai, so perfect for crowded platforms and trains, claims much of their time and attention.

Several contributors argued that the mobile leaves people unable to appreciate the challenges and opportunities 'dead time' can present. In Chicago, a group of young intellectuals expressed the concern that such connectivity might even undermine people's self-reliance, making them unable to operate alone, and leaving them dependent on the mobile as a source of assistance and advice. Rarely stranded incommunicado, the person with a mobile is less exposed to the vagaries of chance, unlikely to be thrown onto resources of their own, or to encounter adventure, surprise, or the happiest of accidents. Some people interviewed in Tokyo felt that there was now less chance that time would be spent standing and staring at, for example, the cherry blossom, and more excuses to avoid being alone with one's thoughts and one's own inner resources. In the words of a Japanese student who now lives in Chicago: '*I felt having a mobile phone was like being tied with invisible thread, no matter where I traveled. Because I lived in downtown where information was flooded, I had a strange urge to be free at all times.*'

Mobile users may be less likely to find themselves at the isolated loose ends of the pre-mobile world, but if this does happen, they can feel completely lost and even more alone: a mobile phone that never rings can generate unprecedented loneliness. And when they are without their mobiles, people accustomed to their presence can feel more isolated and vulnerable than they would have done if they had never had a mobile phone at all.

Some contributors to this research were also uneasy about the fashion for **approximeeting**, arguing that the mobile can serves as a universal social excuse, providing late alibis, get-out calls, and any number of other reasons, real or fabricated, to act as one pleases. One British man pointed to the mobile as a source of what he perceived as a lack of 'commitment to the appointment' in mobile sociability. Some people said they often found themselves caught in what seemed to be eternal states of preparation, arrangement and rearrangement, with nights out characterised by endless deferrals and reshufflings of meetings and events which might never occur.

For all their reservations, the vast majority of the many contributors to this research found it impossible to imagine life without the mobile phone, and difficult to be without it. A young Afghan student in Peshawar said: '*If I don't have my mobile with me, I feel as though I have lost*

something. I'm not OK. There's something missing. I turn off the ring tone when I take the bus, or when I'm in the mosque. But I never turn the mobile off.' Some people used much stronger language to describe this sense of attachment as a need, dependency, even addiction. In Tokyo, several teenage girls and boys say they would 'die without' their mobiles, and many Japanese mobile users seem to live in fear of losing their mobile connectivity or even missing a call. '*I can't go out without it*', says a female shop worker, adding that she does her best to stay out of basements, where reception is poor. One young schoolgirl describes herself as a **wan ko girl** (from the English, '**one call**'), so keen not to miss anything that she always answers her mobile after just one ring.

7. An Allegorical Illustration

Most mobile manners, posture, and stances are dictated by circumstance, and change according to mood, location, the nature of a call and the relations it involves. There are, however, some archetypal ways of using mobile phones.

Inspired by the mobile's resonance with the songs of birds, as well as histories and mythologies of birds as carriers and messengers, six mobile characters have emerged from this research.

The Swift Talker

Swifts spend most of their lives in flight. Their mobile counterparts are confident and cool, often on the move and on the mobile and well accustomed to talking and texting on the wing. Just as swifts don't land for fear that they might never fly again, so these mobile users are reluctant to be without an active mobile phone.

The Solitary Owl

Owls tend to keep their telecommunications to a minimum, making and taking only necessary calls, preferring their own company and counsel to the constant chatter of their mobile friends. Because they are less used to using their phones, they can be surprised, even bewildered, when their own or someone else's mobile rings, and can often be seen hunting for their mobiles in the depths of pockets or bags.

The Calm Dove

Doves take and make calls discreetly and without embarrassment. They are comfortable with their mobile phones; quiet and modest, but also confident, neither showing off nor trying to hide the fact that they are transmitting or receiving calls, writing or reading text messages.

The Chattering Sparrow

Sparrows are more excitable, and tend to be nervous or lively when they make or take a call. Sparrow calls tend to be frequent, and are likely to be chatty, sociable and intimate, peppered with chuckles and personal banter. Sparrows are also great text messagers.

The Noisy Starling

Starlings tend to be assertive, even aggressive and discourteous birds. Their mobile imitators can be found pushing their way through crowds, or into other conversations, while talking loudly on the mobile phone.

The Flashy Peacock

Peacocks are the classic exhibitionists. As mobile users, they are proud, extrovert, and primarily concerned with their own appearance and that of their mobiles. Ironically, they are the least mobile of all birds, and their mobiles are primarily for show: they simply like to be seen with the latest fashion in tail feathers.

8. A Sociological Analysis

In the 1950s, American sociologist David Riesman identified three basic modes of relating to the world, each corresponding to clusters of traits and patterns of behaviour. Riesman defined these three clusters as 'tradition-direction', 'inner-direction', and 'other-direction'. Less conscious choices than habitual dispositions, these orientations reflect people's immediate sources of guidance, knowledge, and support. They also provide a useful framework within which to consider people's relationships with mobile phones.

Tradition-directed people look to the collective and to the past – to the routines, rituals and a sense of a natural order inherited from elders and reinforced by the collective. There are strong, detailed norms of behaviour, which it is shameful to transgress, and which are collectively surveyed. The traditional directed individual or group has – or professes to have – little use for a mobile phone. Tradition-directed people are likely to be rather judgmental about public mobile displays, and perhaps even scandalised by its capacity to disrupt 'natural' boundaries between public and private.

The inner-directed person does not yet accept the mobile mode of social life in which boundaries of time and space are renegotiated. The inner directed person is most likely to abort difficult personal calls or ensure they are unavailable by switching phones off in advance of social occasions. In Riesman's model, inner-directed people tend to turn to inherited resources for guiding conduct. These have been internalised through early childhood education, and fostered as a kind of personal store of moral fibre. Inner-directed individuals have what Riesman describes as a 'psychological gyroscope', which keeps them centred on themselves and bound to their enduring principles. The inner-directed mobile users do not let their mobiles revolutionise their lives. They tend to use their mobiles sparingly and with purposive and 'responsible' motives – typically for work and family – and are inclined to be judgmental about other modes of mobile use.

Riesman's other-directed characters are more dependent on guidance and sharing from contemporaries, rather than older generations and social institutions. 'While all people want and need to be liked by some of the people some of the time,' writes Riesman, 'it is only the modern other-directed types who make this their chief source of direction and chief area of sensitivity.' The mobile is the perfect object for this way of life. It allows the other-directed person life to live in a world of multiple connections and relationships which may also be rather looser and more transient than the fewer, stronger bonds maintained by more tradition-directed or inner-directed individuals.

	Traditional Directed	*Inner Directed*	*Other Directed*
Behaviour	-	Spacemaker	Speakeasy
Display	-	Discreet	Overt
Usage pattern	Refusal	Limited	Frequent
Typical Sphere / justification of use	No point in having one	Work, domesticity, purposive, instrumental	Work, domesticity, purposive, instrumental, and affective, hedonistic
Attitudes to mobile users	Censorious	Considerate	Unconcerned
Dynamics of social circle	Familial, traditional networks	Centripetal	Centrifugal
Self management of mobile phone users	Fear of dependence	Fear of guilt: overuse, failure of rugged individualism	Fear of being out of touch: failure of social support networks

Several contributors to this research identified elements of two or even all three of these clusters in themselves, and it was particularly striking that many people seem more than capable of managing all three loyalties – to traditional structures, themselves and their contemporaries. Young British Asians, for instance, have been some of the country's most creative and enthusiastic mobile users, recognising it as a useful tool in strategies for managing the competing demands of traditional family and individual identity. One young woman described the ways in which she uses her phone to mediate familial power in the arrangement of potential marriage. If she likes the suitor she will give him her mobile number; otherwise, he will be confined to the (more) traditional and familial medium of the fixed-line telephone.

9. Conclusion: mobile geopolitics in the 21st century

If the fixed-line telephone brought communications links into the workplaces and homes of the developed world, the mobile puts them straight into the hands of unprecedented numbers and varieties of individuals. Its growth marks a significant devolution of many different kinds of economic and social power.

On a wooden ship moored in Dubai's busy creek, a Somali trader dozes in the shade of a tarpaulin sheet. He wakes to the opening bars of Jingle Bells. '*Hallo? Aiwa… la… aiwa… OK.*' The deal is done. This trader, Mohammed, exports small electrical goods, including mobile phones, to East Africa. '*It's my livelihood*,' he says of the mobile phone. '*No mobile, no business.*' It multiplies his opportunities to make contacts and do deals as he moves between cities and ports, and the short, instantaneous messages and calls to which the mobile lends itself are perfectly suited to the small and immediate transactions in which he is engaged. He now has access to intelligence about the movements of goods, ships, competitors and markets. Information that was once way beyond his reach is now at his fingertips.

The mobile can make an enormous difference to regions where fixed-line telephone services are unavailable, inefficient or prohibitively expensive. In remote parts of several developing countries, including Swaziland, Somalia and the Cote d'Ivoire, the mobile is being introduced in the form of payphone shops in villages which have never had land-lines. In rural Bangladesh, these shops, and the women who run them, have become new focal points for the community. Although an attempt to set up mobile services in Afghanistan failed just a few years ago, many Afghan refugees in Peshawar expressed the hope that mobiles will bring telephony and the internet to Afghanistan. '*There are very few telephones in Afghanistan. Many people travel more than 200 miles to use a telephone, and even letters can take months to arrive. Everyone is waiting for mobile phones.*'

Recent upheavals in the Philippines suggested that the mobile has political potential, too. When President Estrada went on trial in January 2001, mobilisation found a new meaning as protestors used text messaging to keep up to date with events and mass gatherings. The local press referred to them as the 'text brigade'. One of their messages read: 'Military nids 2 c 1 million critical mass. pls join. pas on.' Mobiles have recently played crucial roles in several political campaigns: the co-ordination of England's environmental protestors, Germany's anti-nuclear campaigners, Mexico's Zapatistas, prison rioters in Turkey and Brazil, and anti-capitalist activists in Seattle, Prague and Quebec.

The relatively low costs and simplicity of the mobile phone have made its spread and reach unique in the history of technology. The mobile has taken its place in a time marked by increasing connectivity, unprecedented mobility, and the emergence of new cultures, communities and collectivities, and it is now helping to shape that new, emerging world. If the landline telephone 'arrived at the exact period when it was needed for the organisation of great cities and the unification of nations,'[7] the mobile phone arrived to suit a new era of mobility. All around the world, people are moving and migrating for work, often to cities from more rural areas, and the numbers of refugees, tourists, and travelers have soared in the past 20 years. Circulations of commodities, money and information have also gained a new sense of momentum, and even people who go nowhere face new instabilities as traditional structures of employment, family, community, and cultural life are disrupted. The mobile encourages such movements, and helps to repair the connections they may break. In this, as in so many other ways, mobile technology shapes and is shaped in turn by the world in which it is evolving, and becomes a potent symbol of the cultural shifts at work across the 21st-century world.

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[7] Herbert N. Casson, *The History of the Telephone*,

APPENDIX 1

Cross-cultural observations

The mobile has already found its way to several regions and communities which have more often found themselves excluded from telephony and on the margins of technological change. As well as many countries like the Philippines, parts of South America, the Caribbean, and Southern Africa have high rates of mobile use, and the list of countries in which mobiles are spreading most quickly includes Russia, Romania, India, Venezuela, Chile and Brazil.

In their broadest outlines, many of the same attitudes, responses, rituals, and emotional engagements may be observed wherever mobile phones are used. But a closer look at the details of people's interactions and relationships with mobiles suggests that while they are introducing some common patterns of behaviour to very varied regions of the world, there is no homogeneous mobile effect. Indeed, the mobile is remarkable for the diverse range of users and uses it attracts. It is uniquely adaptable, capable of playing many different roles, and able to make itself useful in a wide variety of cultural contexts, social worlds and individual lives. As its use spreads, so it will continue to diversify.

In many respects, mobile phone research reveals more about the diversity at work within cultures than about the differences between them. Six people round a table in Birmingham are as likely to differ or agree about the issues raised in this report as six people in six different cities of the world. But just as individual users tend to range from the hedgehog to the fox, or from the starling to the dove, so there are some broad distinctions to be drawn at the global level, too. While rates of economic development have an enormous influence on the extent of mobile use, the popularity of the mobile also seems to be related to some rather more subtle cultural factors. It seems that the mobile is more at home in cultures which foster a relaxed attitude to issues of privacy and personal space, than it is in those which prioritise privacy.

In much of Pacific Asia, where human interaction and interconnectivity are often more highly prized than any notions about privacy, the mobile is readily welcomed by people who have always liked to feel connected, constantly available, always within reach. Even its more disruptive aspects tend to be more acceptable. In Beijing, for example, people rarely react or object to the high volume mobile conversations they often overhear, and few mobile users seem to feel the need to modify their behaviour. In Bangkok, even cinemas are alive with the sounds of mobiles and one-sided dialogues – a situation which would be intolerable in many other parts of the world.

People with a more developed sense of privacy seem rather less willing to accept many of the ways in which the mobile blurs the boundaries which protect private life and personal space.

Several American contributors said they wouldn't hesitate to ask strangers to stop using mobile phones in their vicinity, just as they might ask people not to smoke. They also tended to be more reluctant to consider the mobile as integral to their lives, and were keen to retain what they perceived as their natural, pre-mobile autonomy. The sense of constant connectivity, which is attractive to so much of the world, is here more likely to be seen as a loss of independence, an unwelcome invasion of personal space and intrusion of privacy.

APPENDIX 2

Textperanto: notes on mobiles and language

Short message services (SMS) were first introduced as peripheral features of mobile phones in the early 1990s. They began to assume a life of their own when they first caught on among teenagers, and have now become some of the most creative and popular ways of using mobile phones. SMS has of course provided a new channel for some of the oldest messages in the book: blue jokes, sexy animations, and cartoon obscenities do the rounds at viral speeds. Most of the text messages sent and stored by teenagers in cities from Birmingham to Bangkok have some relation to sex and romance. But children and young people have become particularly adept at inventing their own, often private languages.[8] Text messaging has also established a new kind of contact, opening a channel which has been described as being somewhere between making a call, sending an e-mail, and making no contact at all. It is a unique way of saying something without saying too much. Several teenage girls in Tokyo said that they found it easier to express themselves through the indirect means of keitai e-mail rather than by talking on the phone or face-to-face.

Artists, performers, and writers are also exploring the potential of SMS: in London, Matthew Fuller is working on a project which allows text messages to be sent to a central computer which then broadcasts them on FM radio, and two Scottish artists are building an 'SMS sculpture' near Loch Lomond. Texting has also made its presence felt in other contexts and media. The Berner Zeitung, a Swiss daily newspaper, publishes text messages, together with their sender's numbers, on its letters page. At London's Cybersalon meetings, members of the audience can text their comments to giant screens, and in South East Asia, MTV hosts U-Pop, a live show to which viewers can send text messages which are directly displayed on screen.

Although it is possible to send text messages in scripts such as Arabic, Chinese, Japanese, and Thai, the Latin alphabet is widely used by texters around the world. This maximises the number of characters that can be used, and minimises the time and effort involved in entering text. Chinese characters, for example, are difficult to input into a mobile. Many Chinese texters use pinyin, phonetic Chinese in Latin script, to input text which appears on the screen in Chinese script, but

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[8] The use of such codes and abbreviations is as old as telecommunications itself. In the days of the telegraph, the cost of every word gave telegrams their own poetry, and made it possible to dispense with many of the niceties of conversation. Telegraph operators had their own acronyms, greeting each other with *GM* instead of "good morning", and using *CFD* to mean "come for dinner". Times have changed: in today's SMS slang, *GM* is more likely to mean "great minds", and *CFD* means "call for discussion." *SWALK*, which was once written on the backs of envelopes "sealed with a loving kiss", means "sent with a loving kiss" in SMS.

even this can be a painstaking process. One way of circumventing this problem is to choose ready-made messages from menus presented on web sites: once romantic messages, jokes, or short poems have been downloaded to a mobile, it is then easy to pass them on. Although this means that many Chinese language messages are widely used and off-the-shelf, the text messages in circulation are often very creative. Perhaps because they approach the mobile with fewer expectations and assumptions than their male counterparts, who were traditionally more technologically literate, teenage girls and young women are said to be particularly inventive originators of their own new messages.

Texting shorthands such as cul8r and IDK are in circulation, but many of the most innovative Chinese shorthands involve numbers, which are already steeped in mythical associations and are now assuming a new significance. Spoken in Mandarin, and with a little imagination, 521 means 'I love you', and 531 means 'I miss you'. 478 is a curse (drop dead, or damn you) in some contexts and an affectionate gesture amongst friends. A written joke which has done the rounds also focuses on the pronunciation of numbers. Do you have a good Mandarin accent? If so, read this aloud: 52525252. Those who do so find themselves barking like a dog (52 would be akin to 'woof').

But while English is a common lingua franca, it is by no means the only one. When people from different linguistic backgrounds communicate by way of text, the search for the most dense and efficient texts often results in novel combinations of borrowed words and modified codes. Birmingham's Pakistani teenagers send messages using fusions of Caribbean, Punjabi, and SMS slang: Yo, kidda, ruOK? Such mixed messages are likely to become more common as texting spreads, and may even point to the emergence of localised hybrid languages: new textperantos for the mobile age.

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