

# **Mobile Communication and the Transformation of Daily Life: The Next Phase of Research on Mobiles**

*James E. Katz*

James Katz's article is a 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 with predictions of where the research area is headed next.

In contrast to computer and internet technology, social science research on mobile communication technology has not caught on quickly among the scholarly community. Until recently, it was painfully accurate to decry the lack of scholarly interest in the mobile phone (Katz & Aakhus 2002). Happily, though, the situation is improving rapidly, not the least because of a growing international community of scholars dedicated to investigating social aspects of mobile communication technology.

Beginning in the mid-to-late 1990s, impressive progress has been made in tackling the scholarly study of the social aspects of this technology. Among the earliest efforts was a 1995 survey (apparently the first national poll to compare users to non-users of mobile phones) which focused on the social consequences of its early adoption (Katz 1999). Certainly a foundational thinker about the sociology of the mobile phone (and internet) has been Hans Geser, a Swiss researcher whose writings have been at once both prescient and influential (see his contribution to this issue).

Over the past several years, the leadership and contributions of Dr. Kristof Nyiri, both individually and through his far-reaching conferences arising from the Institute for Philosophical Research at the Hungarian Academy of Sciences, has been far-reaching. His work has not only advanced and broadened the field but has also

---

James E. Katz is Professor of Communication and Director of the Center for Mobile Communication Studies at Rutgers University, New Brunswick, NJ, USA. He is the author of *Connections: Social and Cultural Studies of the Telephone in American Life* (1999) and editor of *Machines that Become Us: The Social Context of Personal Communication Technology* (2003), both available from Transaction Publishers.

*Knowledge, Technology, & Policy*, Spring 2006, Vol. 19, No. 1, pp. 62–71.

helped create an extensive community among concerned scholars. Lara Srivastava is one of the astute and energetic commentators in this regard (Srivastava 2003). Her incisive, data-driven work has illuminated the status of many countries throughout the world. For his part, Joachim Höflich has demonstrated with precision the way use of urban space is affected by mobile phone users. Leopoldina Fortunati has written with great insight into the phenomenological and fashion aspects of the mobile phone (Fortunati 2002). In 2004, Richard S. Ling published a masterful and incisive summary of how the mobile phone appears to be affecting life in a variety of domains. For his part, Leslie Haddon has been a principal in the re-thinking technology's role in the domestic sphere, and is one of the originators of a framework known as "domestication," which explores the moral economy and device integration into the household (Haddon 2004). Scott Campbell has been using international comparisons of students' perceptions of the mobile to explore further the Apparatus theory proposed by Katz and Aakhus (2002). Other important thinkers on the subject of mobile communication have also contributed impressively to the area. These include M. Hulme, R. Harper and N. Döring. Altogether, then, a highly insightful and comprehensive picture of mobile phone reception, use and impact is being drawn. These manifold efforts have led to an impressive corpus of knowledge.

Yet much is still to be learned. As the field moves forward, I would like to suggest three areas worthy of deeper investigation. These are (1) how space-time and attention to the physically present changes due to mobile communication technology, (2) the manner in which mobile communication technology affects self-presentational activities and the choreography of the body in public space, and (3) transcendental and spiritual uses of mobile technology. There are of course many other topics, a few of which are highlighted at the article's conclusion.

### **Meaning of Time, Self and Life-Space**

An intriguing question that has caught the attention of researchers is how people understand the process of time and its change (Zerubavel 2003). Understandably, the question of how mobile communication technology is affecting people's understanding and use of time is paramount. It may be the case, for example, that the experience of one's day changes as a result of mobile communication; this would include subjective perceptions of time, its passage, and its meaning.

One phenomenological aspect might be what Ling and Yttri (2002) have dubbed "hyper-coordination," the sense that every moment is caught in a web of planning and interaction with others, and that plans can be changed quickly in light of circumstances and the actions of others. They also assert that mobile phones serve to soften one's sense of time. To put it differently, users of mobile phones appear to be more relaxed about re-doing schedules and altering plans if they are able to use the mobile phone to coordinating with others.

It is even claimed by some observers, perhaps with a degree of hyperbole, that the idea of being late may disappear altogether. Although such claims are extreme, it certainly seems subjectively that schedules are more readily able to be negotiated if there are changing circumstances, or even if internal subjective feelings change. Several studies reach this conclusion (Zernicke 2003), and it has even been sug-

gested that “cell phones let us turn being late into being on time” (Reader’s Digest 2004). By this it is meant that by calling to a waiting party that one will be late in meeting that can (with the proper excuse) redefine the appointment time to a later one. The essential claim is that it is now more acceptable to all parties involved to adjust social and business schedules. This certainly is the conclusion that Rheingold (2002) reached on the basis of having talked about this issue with mobile phone-using teenagers in Tokyo.

Related to this topic is whether it is indeed the case that mobile phones seem to fragment and isolate the self. Some researchers have focused on how mobiles reduce people’s self-reliance, which in turn erodes their ability to react adaptively to unpredictable encounters. Geser (2003) for instance claims that mobile phones can blunt the development of certain social competencies. This is because of the constant availability of external communication partners (as sources of opinion and advice) as mobile phones enable people to retain primary social relationships over distance. This affects people’s self-reliance, making them unable to operate alone and leaving them dependent on the mobile as a source of assistance and advice. Witness, for example, increasing numbers of people using their cell phones while shopping in grocery stores or video rental shops, asking their family or partners what they should get.

In terms of the mobile phone as the device for filling unoccupied stretches of time, some people in Tokyo (Moseley 2002) expressed concerns about how the mobile phone is used to avoid being alone with one’s thoughts. In Japan, the traditional ways of killing time (i.e., reading books, comics, newspapers, etc.) are losing out to mobile phones. Fortunati (2002) shows how the use of mobile has encouraged more productive use of time. There can be little doubt that time spent commuting, waiting in queues at banks and airports—time ordinarily considered wasted—can now be used to communicate with others via the mobile phone.

Among the analysts who have considered how the mobile phone is altering one’s life-space are Peters and Hulme (2002). In their view, the mobile phone is seen by users as an extension of their self. By the same token, the loss of a mobile phone is felt not just on the material level but also on the level of one’s sense of physical self. Indeed, some even see such a loss as the psychological equivalent of physical disintegration. Thus Moseley (2002) asserts that should a person leave home without the mobile phone, that person may have a definite sense that something is missing: “A human with a mobile in the pocket is appreciably different from the human without one” (Moseley 2002: 37).

Based on this discussion, it seems that the mobile phone may be altering in a rather profound way the ordinary structure of everyday life. Whether the structure is becoming more obscure to its members, whether it is indeed becoming more plastic, and whether it is an important question for researchers.

To take but one illustration of the way daily reality is being re-arranged by mobile communication, we can inspect the problem area of pedagogy. That is, we can raise the question of how education is proceeding when both students and teachers are equipped with mobile communication devices. Yet that paper raised several questions concerning the changing nature of ordinary life resulting from the widespread use of mobile phones in educational settings. So to explore the issue a bit further, in early September 2004 I asked some questions of a class of Rutgers

undergraduate students (most of whom are about 20 years old, and two-thirds of whom are female), about their cell phone habits and experiences, especially as related to classes; the figures are presented in Table 1. To begin, it is noteworthy that nearly all had cell phones: of the 53 students in class, all but 1 reported having a mobile phone and the one student who did not said he had owned previously but currently was unable to afford one. Of those having them, the majority (73 percent) had their mobile phones on during the class, even while the survey was being taken. Of the 38 who had them on during class, 13 percent said that they had received a call or message since the class had begun. No sounds were heard by me, and the students all said their phones were on vibrate mode. (It is worth bearing in mind that US students are much heavier users of voice services than SMS services.)

Perhaps even more interesting is the fact that about half of the students indicated that they had witnessed a professor taking a mobile phone call during class. This proportion of students, who have observed such behavior, unsurprisingly, seems to continue upward as the technology becomes more widespread, more commonplace, and as the elapsed years of experience increase.

Several examples of this were discussed among the class members. One incident revealed how a professor had lectured his students about the importance of not having the cell phone sound during class. The next week, his mobile phone began sounding. He took the call for a moment, and then apologized to the class. Other professors were more extensive in their use of the mobile phone during class, including engaging in arguments with their spouses. In another illustration, this one from 2003, a professor of information science received a call during a doctoral seminar. He excused himself from the room, saying the call was from a doctor whom he had been trying to reach for an extended time period. That left the students baffled as to what they should do until the professor returned several minutes later.

Although not subject of the college-level survey, it is worth reporting an event that transpired which was an even more extreme example of teacher misbehavior. This took place in an elementary school in December 2003. It was reported that a music teacher of 4th grade students (that is, children who were about 10 years old) engaged in protracted discussions of up to five minutes long during class time. He would go over to the classroom's windows to get better reception; meanwhile the bored students would begin trifling. In less extreme examples, another 4th grade teacher would excuse herself and tell the students that the call was related to her wedding planning.

**Table 1**  
**Opinions of students concerning experiences with mobile phones in educational settings. Date: September 9, 2004. N=53, percentages rounded.**

Topic	N	Percent
Students in the class	53	100
currently have mobile phone		98
who had mobile phones on during class		73
received mobile phone call during the first 25 minutes of class		10
recall making a mobile phone call during another class		19
have seen their teachers use mobile phone during classes		49

One implication of this small-scale investigation is that the classroom is no longer the isolated learning environment that it once was. Rather it is blending into the rest of the life, creating an environment of perpetual contact. As mobile games proliferate, the trend towards “outside interference” will continue.

### **Mobiles as Public Choreography**

Another aspect of mobile communication that would benefit from further investigation is the “urban environmental” effects of its use in public. To some degree, questions concerning this have been investigated by Höflich (2004) and Katz (2003). However, the physical performance of public communication, and its impact on the way others in the ambient environment behave, is an area not well developed.

In this section, I would like to call attention to the value of further exploration of the way mobile phones are consumed in public. That is, greater attention could be profitably devoted to investigating mobile communication processes as part of the physical performances that individuals undertake as they share, navigate, and occupy public space. Perhaps it would be useful to apply the term “dance” to this process. In part this is a dance because the use of the mobile phone in public by one party often requires that the user’s co-present partner adjust themselves in space and pace. That is, they must engage in a bit of choreography. This phenomenon of choreography finds a theoretical framework in Edward Hall’s (1977) discussion of “being in sync.” This refers to the idea that people in interactions need to “move together,” and if one of the interactants are not “in sync,” other parties find the interaction “disruptive” (Hall 1977: 71). He further states:

“People in interactions move together in a kind of dance, but they are not aware of their synchronous movement and they do it without music or conscious orchestration. Being ‘in sync’ is itself a form of communication. The body’s message (in or out of awareness), whether read technically or not, seldom lie, and come much closer to what the person’s true but sometimes unconscious feelings are than does the spoken word” (Hall 1977: 71–72).

Ling (2001) examines the way people manage their social interaction involving the mobile phone. Observations of mobile phone use in public places suggest that the emerging use of the mobile phone has introduced a new context wherein people need to move “in sync.” Whether people are aware of their body movement or not, they adjust their body positioning once the face-to-face interactants start engaging in a mobile phone conversation, thus creating a kind of dance with the mobile phone. People involved in the interaction could be the partners of face-to-face conversation at the moment or people who happen to be physically present in public places, rather like the “forced eavesdropping” situation that Ling (2004) has described. The participants themselves could be mobile phone users, nonusers or rejecters. Regardless of their mobile phone use, they all have to take on the choreography of mobile phone use somewhat, in order to have a smooth social interaction.

The choreography of arrangement is informal, but seems remarkably consistent within cultures. For instance, it has been argued that in Japan, users in public conveyances emphasize manners and privacy, seeking to exclude others. What follows

are summaries of our observation. First, the non-using partner has to engage in symbolic behaviors that suggest valuable activity. At the same time, there is lots of tacit and audible but indirect coordination. For instance, as the mobile phone user gets ready to conclude the conversation, the non-participating partner mysteriously is able to resume focus on the mobile phone user, and begin engaging the user visually.

There also seems to be a consistent set of postures that people display when using the mobile phone. These include:

- The bent over “into the wind” posture when walking and the phone is held against the ear
- The public pacing—just where are the users going when they pace?
- The cricked neck
- The multi-task contortion
- Encompassing the technology to create a world separate from the environment
- Draping the body on environmental objects
- The diamond (both arms to the side of the head, one hand holding a mobile to an ear, the other used to cup the opposite ear)

In addition, behavior tends to reproduce itself. In his discussion of “postural echo,” Desmond Morris (1977: 83) observes that friends who are informally speaking with one another often adopt similar body postures. They do this, he says, “unconsciously as part of a natural body display of companionship”. I would go further, and suggest that it is often the case that people adopt the postures and body positions of those around them whether or not they are friends. While Morris holds that this form of imitation is not deliberate, I would go further and argue that it is actually quite hard to resist. It can often only be done if one is consciously making an effort not to do so. At the very least, there is a continual process of body posture interaction that complements the postures of those around the actor.

In the case of mobile phone use, the co-present partner, who had not been using his/her mobile phone, will often be prompted to begin using his/her own phone. Certainly our surveys of students in classrooms reinforces this idea. Students often say that when they see another student using a mobile, it prompts them to begin doing so even if they had not originally been intending to do so. Mobile phone use in public therefore seems to beget yet more public mobile phone use.

From the viewpoint of human behavior and proxemics, a *pas de deux* is created. However, the “postural echo” in this case does not seem to be a sign of “companionship.” Two friends who are physically co-present are more likely to be sending a relational message of “companionship” to the persons who are on the physically present other side of the situation. The person, who had not been using a mobile phone, in order to display companionship, still unconsciously echoes the behavior of the partner who is physically present and using the mobile phone. This would be predictable extrapolating from Morris’s assertion, made decades before the mobile phone itself was publicly available.

Yet we also note that there is a constant attempt at communication coordination when one member of a dyad is on the mobile, and the other not. There is continuous checking the partner’s expression when the partner is looking away, which will be followed by the phone person looking away and the partner then checking out

the phone user's face. Looks and body language alone are not the complete picture of the mobile phone dance. There is "song" too. The tone and loudness of the phone person's voice signals the partner as to what the partner should expect in terms of distance and anticipated additional time on that the phone users will be on talking; this too helps coordinate the choreography of the dyad.

A corollary aspect of public phone performance is that sometimes the dynamic of mobile phone use is largely (or even exclusively) for those who are present. That is, talking on (or playing with) the mobile phone may be as much for the benefit for those "present" with a mobile phone user as it is for those who are "absent" and would be the putative subjects of the mobile phone use. (This is certainly confirmed by our research which shows about one in four mobile phone users say they have pretended to talk on the mobile phone when there was actually no one on the other end of the line.)

So the choreography of mobile communication performance needs to be better understood as an interpersonal communication phenomenon, as a physical as well as a psycho-social and organizational phenomenon.

### **The Transcendental Mobile Phone**

While the identity and personal meaning of the mobile phone has been extensively examined, especially in terms of teens and children, the same cannot be said in terms of the spiritual and religious, and extra—sensory aspects. In particular, insufficient attention has been given to the way mobile phones have been adopted as transcendental devices. For many, the mobile device seemingly enables a crossing over from this life to a possible after life or world beyond the "here and now." This is becoming widespread in terms of religious practices. For instance, occasional Jewish worshippers at the Western Wall ("Wailing Wall") in Jerusalem will hold their mobile phones aloft so that their distant co-religionists can have their prayers be made audible at that sacred location. Comparable scenes are repeated at Buddhist and Hindu shrines by adherents to those religions. In India, some Hindu temples encourage the sending of SMS messages to supernatural entities represented by their shrine's telephone number. Users can also receive messages via their mobile phone, such as a service offered in the United States wherein subscribers get daily messages from the Pope.

According to press reports, "Okwap" (a brand released by Inventec Appliances Corp.) has taken advantage of Taiwanese interests in Matsu, the Chinese goddess of the sea, and who is a popular religious icon there. Okwap has created in 2004 a limited-edition model that comes with a Matsu holograph on the back of the phone, ring-tones featuring religious chants and Matsu wallpaper for the display pad. Most relevant is that all the phones have been blessed in a ritual at a Matsu temple (Textually.org 2004), and can download special Matsu music from the web. Originally only 2,000 phones were made (each selling for about USD 300); however the demand was so overwhelming that an additional 1,000 were produced before the run was permanently ended.

In August 2004, Ilkone Mobile Telecommunications of the United Arab Emirates (UAE) launched the Ilkone i800, a device that it claims is "the first fully Islamic mobile phone." (Ilkone is derived from the Arabic word for universe.) The

phone boasts many features that would be helpful to observant Muslims. The GSM-standard phone includes the full text of the Qur'an in Arabic with an English translation, an automatic prayer call (azan) with full audio reproduction as well as a silence mode, a prayer alarm before and after azan, automatic direction finding for Mecca directions, a Ramadan calendar and a Hijri calendar converter. According to Saqer Tellawi, CEO of Ilkone, "consumers nowadays view mobile phones as devices which can add value to their self being and inner feelings rather than just a simple communication tool. Ilkone i800 is specially designed to serve Muslims all across the world to address their needs, and add value to their spiritual self being" (Ilkonetel 2004).

Transcendental matters concerning the mobile phone have been taken still further. Uses of it have extended beyond the "spiritual self" and have been applied to spirits themselves. As an illustration, it has become the case that the mobile phones are now used as sacrificial gifts and utilities for those beyond the grave. Boxes of sacrificial offerings to the dead, which include items supposedly needed in the afterlife, have been and made commercially available in Asian rim countries. Now some of these gift boxes include mobile phones; in Hong Kong for instance ready-made sacrificial packages are sold that include cardboard mobile phones and pagers. In Japan, mobile phone antenna dongles and mobile phone toys have been left on religious statues of shrines. A statue of the Hindu god Lord Ganesh holding a mobile phone in one of the many arms has been created and merchandized. When a young Italian girl was accidentally killed by Mafiosi, mourners placed mobile phones as memorial offerings on the tombstones.

Thus the mobile phone is taken by many not only as a statement of self, but also as a representative of the self that can transcend states of reality and transmit a sense of will and being beyond the realm of the senses.

### Other Areas Sketched

Many other research topics are worthy of further investigation. A small sampling is offered here to suggest the range of issues that mobile communication is posing for us. These can be put in highly abbreviated form here:

- What does it mean to be "with someone" and how does the splitting of attention between present and distant locations affect respective social relationships? Could we be hollowing out our social relationships, or building, as R. Ling (2004) suggests, walled gardens around our social selves?
- Are we moving from a phenomenology of writing to one of image, as Nyiri (2005) argues?
- Are there going to be more semi-spontaneous and coordinated group activities in the public sphere? Will the modes of initiating contact for social relationship creation be modified as a result of this technology?
- Will the practice of democracy change as a result of the availability of mobile communication technology and new modes of information dissemination and social organization?
- How will international crime control and anti-terrorism efforts be affected by mobile communication? Already both the conduct of terror and efforts to safeguard people's lives are being affected by mobile communication, but who is gaining an advantage and with what results needs to be further considered.



- Are there net benefits from the constant “perpetual contact” that people increasingly experience due to their organizational involvement?
- How will peer-to-peer mobile communication technology affect institutions?
- Will mobile communication technology serve to hollow local commercial life as automatic and “self-service” and “do it yourself” approaches erase the retail and middle management classes? What will the experience of shopping be like when the clerks and petite-bourgeoisie are replaced self-service systems? How will this affect urban and suburban landscapes and social life? Will a “mobile divide” be created, especially to the disadvantage of the non-mobile elderly and already socially marginalized?

These issues are posed in the form of rhetorical questions. To investigate them thoroughly, they must be broken down into further components for detailed analysis. It is also the case that it will be difficult to gather good data on them. Yet despite these considerations, the answers to them will be quite important.

### Conclusion

In 2004, Prof. Christopher Henshilwood of the University of Bergen discovered in South Africa what appears to be the oldest known jewelry—75,000 year old pierced and ochre-tinted tick shells. His discovery suggested the importance of jewelry and other forms of interpersonal communication and representation. Henshilwood asserts that “once symbolically mediated behavior was adopted by our ancestors it meant communication strategies rapidly shifted, leading to the transmission of individual and widely shared cultural values” (Graham 2004). If we agree with Prof. Henshilwood’s assessment of the import of the initial use of symbolic display technologies (in this case, tick shell decorative jewelry), the implications for evolving practices of mobile communication technology may be even more significant than we generally assume. Specifically, novel forms of widespread mediated communication could alter the cultural values we embrace and transmit. They could also transform social structure, interpersonal processes and land use in ways we might neither anticipate nor desire.

The lines of investigation sketched above are important since they illuminate current and emerging social practices and their implications. Mobile technology allows unprecedented permutations and concatenation of innovations in communication at the levels of place and space, individual, group and mass, and creative new services offered from a range of entities from amateur creators to gigantic corporations. Therefore, we have an opportunity to structure services and social practices in a self-aware way that should be conducive to outcomes that are better than would otherwise be the case.

I would, for the purposes of argument, go further and suggest that it might be the case that the mobile communication is also likely to be a transformative technology.

### References

- Brownfield, P. (2004), ‘Lack of cell-phone etiquette draws ire’, *Los Angeles Times*, April 24.  
 Fortunati L. (2002), ‘Italy: stereotypes, true and false’, In: J. E. Katz and M.A. Aakhus (Eds.), *Perpetual contact*, New York: Cambridge University Press.

- Geser, H. (2003), *Towards a sociological theory of the mobile phone*, Release 2.1, September, [http://socio.ch/mobile/t\\_geser1.htm](http://socio.ch/mobile/t_geser1.htm) (27 October 2003).
- Graham S. (2004), 'Ancient shells may be earliest jewels', *Scientific American.com*, April 15.
- Haddon, L. (2004), *Information and communication technologies in everyday life. A concise introduction and research guide*, London: Berg.
- Ilkonetel (2004), 'Islamic mobile phone launched', <http://www.ilkonetel.com/UAE-Press.html> (17 September 2004).
- Katz, J. E. (1999), *Connections: Social and cultural studies of the telephone in American Life*, New Brunswick, NJ: Transaction.
- Katz, J. E. (2003), *A nation of ghosts?* Presentation at the Mobile communication and social and political effects conference, Budapest, Hungary.
- Katz, J. E. & Aakhus, M. (2002), 'Apparatgeist', In: J. E. Katz & M. Aakhus (Eds.), *Perpetual contact*, New York: Cambridge University Press, 287–317.
- Ling, R. S. (2004), *Mobile connection: The cell phone's impact on society*, San Francisco: Morgan Kaufmann.
- Ling, R. S. & Yttri, B. (2002), 'Hyper-coordination via mobile phone in Norway', In: J. E. Katz & M. Aakhus (Eds.), *Perpetual contact*, New York: Cambridge University Press, 129–59.
- Morris, D. (1977), *Manwatching: A field guide to human behavior*, New York: Harry N. Abrams.
- Moseley, L. (2002), 'Digital culture: Rise of the thumb kids', *Newsweek*, May 6, 37–38.
- Nyiri, K. (2005), See contribution, this issue.
- Reader's Digest (2004), 'Only in America', *Reader's Digest* (April), 19.
- Rheingold, H. (2002), *Smart mobs*, Cambridge: Perseus.
- Textually.org (2004), 'Phones have been blessed in a ritual at a Matsu temple', July 1, <http://www.textually.org/textually/archives/004381.htm> (17 September 2004).
- Zernicke, K. (2003), 'Calling in late', *The New York Times*, October 26, section 9, pages ST1, ST11.
- Zerubavel, E. (2003), *Time maps: Collective memory and the shape of the past*, Chicago: University of Chicago Press.