

**Personal Portable Pedestrian:
Lessons from Japanese Mobile Phone Use**

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Ever since rapid adoption of the mobile Internet in the late nineties, Japanese mobile phone use has been the object of international attention. Although other countries have led in terms of wireless technology development, mobile phone adoption rates, and certain usage patterns (such as political mobilization), Japan is considered by many to define the future of mobile phone use. In addition to high rates of adoption of Internet enabled mobile phones, 3G infrastructures and camera phones, Japan has also been considered an incubator of popular consumer trends that integrate portable technologies with urban ecologies and fashions. The emergent role of Japan in defining cultural trends in the international arena was famously named by Douglas McGray (2002) as Japan's new "gross national cool." In *Smart Mobs*, the book that catapulted mobile cultures into heightened visibility in Western public culture, Howard Rheingold (2002: xi) opens with a scene of texters eyeing their mobile phones as they navigate Shibuya crossing in Tokyo, allegedly the site of the highest mobile phone density in the world. A BBC reporter writes in a piece titled "Japan signals mobile future": "If you want to gaze into the crystal ball for mobile technology, Tokyo is most definitely the place to come to" (Taylor 2003).

My own research on Japanese mobile phone use confirms many of these portrayals of Japanese technology use. At the same time, I believe there are reasons to question the extent to which the Japanese case represents a model for other countries. Japan represents a national context where the use of personal and portable gadgets is well integrated into social and cultural life, and the mobile phone fits this cultural ecology in ways that may presage how these technologies might infiltrate the lives of others around the world. On the other hand, there are specificities to the history of mobile adoption and the urban and information ecologies of Japan that make it something of an outlier case, at least in comparison to countries such as China and India that are already defining a major

new wave of mobile adoption. The goal of this essay is to describe some of the specificities and history of Japanese mobile media use, based on my own ethnographic work and the work of Japanese scholars in the field.¹ Although this essay does not make comparisons with other countries, I present this review as an effort to delineate the Japan case in order that others may make these comparisons.

Behind my approach is an argument against an implicit technological determinism that drives much of the conversation about the international “mobile revolution.” The relationship between society, culture, and technology is not one of a foreign object of technology “impacting” and “transforming” social life and cultural patterns, but is rather more organic and co-constitutive. Technologies are objectifications of particular cultures and social relationships, and in turn, are incorporated into the stream of social and cultural evolution. In this approach, I am indebted to a wide range of work in technology studies that has argued for a seamless “technosocial” framework in examining technologies in society (for example, Bijker, Hughes, and Pinch 1987; Edwards 1995; Haraway 1991; Hine 2000). Technologies are embodiments or stabilizations of social relations and cultural meaning rather than external influences standing apart from culture and society. In other words, Japanese technology and usage patterns are likely to replicate in other contexts only to the extent that there are similarities in the overall technosocial ecologies of mobile media practice and communication. Nothing “inherent” in the mobile handsets themselves is socially or culturally transformative. After first introducing relevant historical, social, and cultural context to mobile phone adoption in Japan, I turn to a constellation of characteristics of Japanese mobile phone tagged by the terms personal, portable, and pedestrian. These terms are meant to signal characteristics that are simultaneously technical, social, and cultural.

¹ I draw from a series of ethnographic studies conducted at the DoCoMo House research lab at Keio University (Ito 2003; Ito Forthcoming; Ito and Okabe 2005; Ito and Okabe Forthcoming; Okabe and Ito 2003; Okabe and Ito 2005), as well as a series of essays by Japanese scholars of mobile media that we have collected and translated in an edited volume (Ito, Okabe, and Matsuda 2005). The ethnographic research is based on a set of communication diaries where users record all of the mobile phone use for several days, followed by an in-depth interview on their usage patterns. A more detailed description of the studies can be found in the research papers cited above.

The Backdrop to Japanese Mobile Phone Adoption

Salient contextual features of Japanese mobile phone adoption include an interrelated set of factors: a unique history of mobile media use, the urban ecologies of major Japanese cities, and a variety of other technical and cultural factors.

A Decade of Mobile Media Use

Unlike most other national contexts, certain Japanese populations, specifically young women, have been using mobile communications media for over a decade, representing a uniquely long-term and stabilized pattern of engagement with these media forms. Japanese mobile media has only recently become the subject of international attention, but within Japan, mobile media first emerged as a major social issue in the early nineties, with the advent of what Kenichi Fujimoto (2005) has called “The Girls’ Pager Revolution.” Most trace current mobile messaging back to the pager cultures of the early nineties, when teenage girls first hijacked the uses of mobile media for their social purposes (Matsuda 2005b; Okada 2005; Okada and Matsuda 2002). Pagers were originally conceived of as business tools for companies to beep their workers in the field, but only became popular mobile media after teenage girls adopted them. Okada (2005) describes how 1992 was a pivotal year in the development of mobile messaging. Spurred by reductions in subscriptions rates and new pagers that displayed a callback number on the terminal (as opposed to simply beeping), young users began adopting this new medium. In contrast to prior years, where business uses were central, 1993 saw individual users, mostly in their teens and twenties, beginning to dominate, comprising 70% of new subscriptions. Taking their cue from these trends, providers released new pager designs that could receive text as well as numbers. At the peak of their use in 1996, 48.8% of Tokyo middle and high school students had a pager.

Mobile phone providers took note and began piloting inexpensive text messaging services for mobile phone handsets in 1996 through 1997. Young people soon jumped

onto the short message services purveyed by the Personal Handyphone System (PHS) and then moved on to cellular phone-based messaging. By 2002 pager subscriptions were on the decline and young users had largely switched to texting via mobile phones. When mobile Internet services were rolled out in Japan in the late nineties, they integrated the messaging functions that had previously been restricted mostly to short messages sent between subscribers of a particular provider. Japanese mobile Internet adoption was driven forward by mobile messaging as young people, for the first time, were able to send messages of varying length across different terminal devices and mobile service providers. Within a space of a few years between 1995-98, mobile phones shifted from association with business uses to an association with teen street culture. Many of the young women we interviewed who are heavy texters had started with pagers in their middle school years, moved on to PHS in high school, and are currently mobile Internet users. They see the different technologies as upgrades supporting the same underlying set of social practices.

In the decade that young women were moving from pagers to PHS to mobile phones to the mobile Internet, the practices they were piloting also began to diffuse to the population at large. Until 2002, youth continued to lead the general population in terms of adoption rates, but in 2003, the gap between the youth and the general population closed (VR 2002; Yoshii, Matsuda, Habuchi, Dobashi, Iwata, and Kin 2002). Now mobile phone use, and even mobile texting, are practices that span ages and genders. This history indicates how current patterns in mobile media evolved gradually through a set of incremental innovations that intertwined the social, cultural and technical. Young girls' communication cultures took up a technology in a unique way and piloted new social practices, which in turn informed the design of new technologies, which embodied these sociocultural innovations. In turn, these technologies (such as the text-enabled PHS and cellular phone) became ambassadors for new social and cultural practices in a broader cut of the Japanese public. It is through this gradual evolution that we now see a relatively stabilized set of social norms and patterns surrounding the use of mobile voice texting and voice telephony. In other words, it is not that the advent of short text messaging or the mobile Internet "created" contemporary practices of mobile media use

in Japan, but rather that the technical forms arose out of a historical trajectory of evolving social practice and cultural value.

Urban Ecologies

The urban ecologies of cities such as Tokyo and Osaka are similar to many other densely populated cities in Europe and high-tech Asia that have led adoption of text-based mobile communications. These cities are characterized by high pedestrian and public transportation use and lively street cultures. In addition to the youth street cultures that have been a driver of mobile phone use in various parts of the world, Japanese urban ecologies represent some dimensions that have likely contributed to an even greater reliance on text based mobile communication over voice communication.

Public space in Tokyo, where we did most of our fieldwork, is highly regulated, through explicit methods such as signage and announcements, as well as through more informal peer-based regulation. This is particularly true of public transportation. Posters and signage on trains and buses exhort passengers to keep their umbrellas away from other passengers' pant legs, not take up too much space on a seat, hold backpacks in arms so as not to bump others, and not to jump through closing doors. Most trains and buses display "no mobile phone signs," and announcements are made every few minutes specifying limitations on phone use. A typical announcement is: "Please do not make voice calls while on the train. Please turn off your mobile phone in the area surrounding 'preferred seating' [for the elderly and disabled]." In one of our studies, we have focused on uses of mobile phones on trains and subways (Okabe and Ito 2005). While we commonly observed email use, voice calls are rare. For example, one 41-minute observation on a busy train line represented the highest volume of usage that we recorded. During the period of observation, there were 37 instances of observable mobile email usage (including both receiving and sending email), and 4 instances of voice calls. In a 30-minute observation with the lowest volume of usage, there was one voice call and 10 instances of email use. The overall average of voice calls in any given 30-minute span is 1-2 calls. In our observations, we also noted instances where passengers responded to infrequent cases of people taking voice calls by glances or gazing at them, indicating the

subtle ways in which mobile phone use is regulated among people sharing public space (Okabe and Ito 2005).

In our interviews, almost all responded that they would freely engage in email exchanges but were hesitant to make and receive voice calls. For example, interviewees described how they might decide not to answer a voice call if the train was crowded, or they might move to a less crowded location to take a call, or they might take the call but cut it right away. Most also responded that they were annoyed when somebody took a voice call on a train and talked in a loud voice. This also holds for restaurants, though people do take voice calls in casual cafes and fast food restaurants. Phone ringing is also considered a violation in public space. Interviewees who were heavy mobile users almost invariably reported that they put their phones in “manner mode” (silent mode) when they left the home. Despite the virtual lack of voice mobile communication on trains in the Tokyo area, the announcements are relentless, attesting to a high level of social regulation work even in the absence of major transgressions.

In addition to the regulation of mobile phone use in public spaces, we also found that crowded living conditions also contributed to particular uses within the domestic sphere. Young people rarely invite their friends over to their home because of this, which means they take to the streets and their mobile phones to socialize. And when at home, they find that the silent and low key modality of mobile texting is less likely to invite the attention of their parents and siblings for exchanges that they would prefer to remain private (Ito Forthcoming). In summary, the dense urban ecology of Tokyo, combined with the social and cultural norms that discourage disruptions in shared spaces, have contributed to the tendency in Japan to use text-based communication modalities, and to rely heavily on the personal medium of the mobile phone.

Other Contextual Factors

In addition to the historical and environmental factors that I have outlined, a few others deserve mention as a backdrop to current mobile media usage. The business model piloted by DoCoMo in rolling out i-mode is one that has gotten much attention in the business literature. One important dimension of this was that i-mode, for the first time,

enabled users to text message each other regardless of terminal type or service provider. Prior to the advent of the mobile Internet, users were limited in being able to do text exchange across different mobile providers. It was this factor that is probably the single largest driver of mobile Internet subscriptions for existing mobile phone owners.

Additionally, Japan has a high literacy rate, and well-established traditions of textual and pictorial communication (Fujimoto 2005). Practices such as *koukan nikki* (shared exchange diaries) and *etagami* (illustrated letters) are long-standing forms of social exchanges that have fed into the current exchange of text messages, pictograms, and picture messages. Finally, Japan has a history of innovation and affinity with portable technologies, beginning with mobile phones, and more recently with technologies like the Tamagotchi, portable game machines, and now the mobile phone. Miniature electronics have long been a mainstay of Japanese electronic industries, and they have been adopted with enthusiasm by Japanese consumer cultures. All of these factors are part of the social, cultural, and technical ecology that has given rise to current patterns of Japanese mobile media use. I now turn to a description of these patterns of usage, based on the technosocial characteristics of personal, portable, and pedestrian.

Technical, Social, and Cultural Characteristics of Japanese Mobile Phone Use

Personal

In his survey of the history of Japanese mobile media, Tomoyuki Okada (2005) describes the trend toward personalization of telephones that happened in the later decades of the 1900s. In the eighties, wireless phones were attached to ships, trains, and cars, and were considered mechanisms for conducting communication in transport vehicles. As mobile phones became adopted for business uses, they were generally shared by a group of people, such as workers at a construction site. Similarly, pagers were initially shared by groups, such as among salespeople, and were simply a mechanism for the office to tell them to call in. In the nineties, in the hands of teenage girls, pagers were transformed into a medium for personal communication, and mobile devices came to be attached to individuals rather than groups or institutions. When pagers were designed that displayed

callback numbers and the cost of subscriptions dropped, teenagers began adopting them in large numbers as a way to send numeric codes to one another. Okada also traces similar trends in landline telephony and the personalization of media such as television, radio, and stereos, where these media have moved out of the shared space of the home and into bedrooms and portable forms. The current norm, that mobile phones are intimately tied to a particular individual, is part of a more general trend in the personalization of media.

In our ethnographic studies of mobile phone use, we found that the personal dimension of the mobile phone was a central characteristic that structured usage patterns. Users stated that they would never answer the phone of another individual, even of a spouse, and looking at another person's handset uninvited is socially unacceptable. Phones are now almost always attached to individuals, and are valued as a guaranteed mechanism for connecting with a particular person, in sharp contrast to the home or office phone which presents the risk of someone else answering. All teenagers stated a preference for calling a mobile rather than a home phone because they could avoid talking to a parent (Ito Forthcoming). Spouses would often state a preference for calling a mobile even when their partner was near an office phone if it was "personal business" and they didn't feel it was appropriate to call the shared office phone. Other studies have shown an overall increase in family and couple communication with the advent of mobile media because it facilitates casual exchanges between close individuals, such as asking to pick up something on the way home from work, or other coordination tasks (Matsuda 2005b).

This value on personal and private communication was particularly strong for high school kids living with their parents, who had very few settings in which they could have private conversations with their friends and lovers. We found the highest rates of mobile communication among young couples living apart. The mobile phone became a space of intimacy that was theirs alone. Much of the exchange between couples was "sweet nothings" that functioned to affirm their connection with each other rather than explicit acts of communication. For example, one teenage couple in one of our studies would start by sending a steady stream of email messages to each other after parting at school. These messages will continue through homework, dinner, television shows, and

bath, and would culminate in voice contact in the late evening, lasting for an hour or more. A trail of messages might follow the voice call, ending in a good night exchange and revived again upon waking. This steady stream of text exchange, punctuated by voice calls and face-to-face meetings, define a kind of “tele-nesting” practice that young people engage in, where the personal medium of the mobile phone becomes the glue for cementing a space of shared intimacy (Ito and Okabe 2005).

Another dimension of personalization is handset customization. A handstrap sporting a favorite character or design is a nearly universal form of customization in Japan. Different plates, screened and painted designs, special antennae, and screen guards are other more advanced forms of customization (Hjorth 2003). Customization and personalization has also been the primary driver of mobile web access, since ring tone and wallpaper downloads are the most popular sites on the mobile web (Yoshii et al. 2002). The crowded conditions of Japanese urban life, and a pervasive sense of social surveillance in schools, workplaces, and homes, has no doubt contributed to this attachment to a communication device that is personal and personalized, an oasis of privacy and individual identity.

Portable

In Japanese, the mobile phone is called a *keitai*, which might be roughly translated as “a portable,” or “something you carry with you.” In contrast to “the cellular phone” or “the mobile” which stress technology and function, the Japanese term stresses the relation between user and device. A *keitai* is not so much about a new technical capability or freedom of motion, but about a snug and intimate technosocial tethering, a personal device supporting communications that are a constant, lightweight, and mundane presence in everyday life. Originally the term was *keitai denwa* (portable phone), but after they became popular in the late nineties, the term has been shortened to simply *keitai*, evidencing a shift away from telephony as the dominant function of the device towards a more general device for “always-on, always with you” connectivity. As Misa Matsuda (2005a) states in her review of *keitai* studies, “among young people, the *keitai* is not so much as phone as primarily an email-machine.” For these young people, the

mobile phone is almost always with them, a constant presence that accompanies them even as they move about the house. It is less about the ability to communicate “on the go” but more the fact that social relations are always close at hand.

In our ethnographic studies, we found that most mobile phone communication was done with a small circle of close friends and family, generally 2-5 others but no more than 10. While mobile phone address books might contain over a hundred entries, the actual communication logs of our research demonstrated that by far the bulk of exchanges was with the intimate circle. This kind of social formation is what Ichiyo Habuchi has called a “tele-cocoon” (Habuchi 2005), and Misa Matsuda (2005b), following Ichiro Nakajima, Keiichi Himeno, and Hiroaki Yosii (1999), calls the “full-time intimate community.” For heavy mobile phone users, particularly those who rely on the lightweight modality of text messaging, their social relations are “always on.” In fact, we are finding an emergent social norm around frequent text messengers that they will signal their unavailability from the shared online space by sending good night messages, or messages such as “I’m taking a bath now.” In other words, the connected state is the default and the disconnected state is noted.

Many of the messages that our research subjects recorded for us in their communication diaries were simple messages sharing their location, status, or emotional state, and did not necessitate a response. For example, a user might text, “I’m walking up the hill now, it is really long,” “that TV episode today was great wasn’t it,” “class is so boring,” or simply “sigh.” These messages are akin to the kind of awareness that people might share about each other if they occupied the same physical space. The metaphor is side-by-side rather than the more engrossing face-to-face modality of a telephone conversation. These lightweight messages can be sent and quickly viewed while engaged in other activities such as in classroom settings, as one is in transit, or engaged in a social situation. If both users are not otherwise engaged, these virtual taps on the shoulder might result in a more engaging chat-like sequence or a voice call, but often these kind of messages are simply a way to quickly affirm a connection or a sense of co-presence (Ito and Okabe 2005).

Portable, handheld technologies occupy a particular social niche that differs from mobile technologies more generally in that they are low-profile devices that enable

lightweight connection and disconnection. Portables colonize the inbetween spaces of everyday life, and afford “continuous partial attention” (Stone 2004). Unlike, for example, the laptop computer, they are generally always powered up, can be manipulated with one hand, and can be viewed privately and surreptitiously in a wide range of social situations. In this constellation of technosocial characteristics, the small screen and keypad are positive usability features rather than a limitation.

Pedestrian

This low-profile and portable characteristic of Japanese mobile phone use is related, in turn, to a street level presence that melds with pedestrian urban ecologies. By pedestrian, I am indicating both this on-the-street dimension as well as the mundane character of much mobile phone communication and information exchange. In his description of mobile youth cultures, Fujimoto (2005) describes “*nagara* mobilism” as a central component of young people’s usage patterns. *Nagara*, which could be translated as “while doing something else” is a term used to describe young people’s tendency to multi-task, to read while watching TV, to eat while walking, or, in the case of *nagara* mobilism, to use the mobile phone while walking or biking. Fujimoto describes the now familiar scenes in urban Japan of kids texting while riding their bicycles at a snail’s pace along crowded sidewalks, of traveling to and from school in small packs while chatting and talking and typing into their phones.

As mentioned earlier, one of the reasons why text messaging has been such a popular modality is that it can be used in situations that would not be amenable to voice calls. Text exchanges can be done while in public transportation or while engaged with other activities that require partial or sporadic attention. For example, in our communication diaries, we found one user who engaged in an extended text message exchange with her boyfriend while she was riding a bus, got off the bus, waited on a train platform, and rode a train home (Ito and Okabe 2005). It would be difficult to maintain a voice exchange through all of these changes in location, even if it were not socially inappropriate to make voice calls in public transportation. Similarly, in another diary, we found a user who was engaging in a text exchange with a friend about a pair of shoes her

friend had found while out shopping. Our research subject was on the job, and was apparently dealing with her work while communicating sporadically with her friend. The exchange has long pauses of 10-20 minutes while work issues were being attended to, but the exchange could continue through these pauses and in the interstices of the face-to-face demands that the user was attending to.

More recently, in our research on camera phone usage, we have found that pictures taken by the camera phone have a more pedestrian quality to them than those taken by the traditional camera (Okabe and Ito 2003). While users prefer to use a film camera or a higher quality digital camera for their special occasion and archival photos, pictures taken by mobile phones are often of the more fleeting and mundane moments of everyday life—a cake that looked good at a café, an interesting but everyday scene or viewpoint, or a sudden moment of cute kid or pet activity. Often these pictures are enjoyed for a few days and then forgotten, soon to be erased from the limited memory of the camera phone. Fujimoto (2005) uses the metaphor of “refreshment” to describe the pleasures afforded by the mobile phone—these engagements are more like a coffee or a cigarette break than the immersive and sustained pleasure of conversations, movies or television. These pedestrian photographs, the ongoing exchange of text sweet nothings, are brief attentional interludes uniquely characteristic of the role of portable technologies in Japanese life.

Conclusions

This paper has outlined some of the factors contributing to contemporary patterns of Japanese mobile phone usage, and has described these patterns in terms of a set of social-technical-cultural characteristics. I have tried to specify the unique qualities of Japanese usage patterns, while also providing contextual information that would enable other researchers to gauge similarities and differences with other contexts. In other words, I have argued that the particular technologies and social and cultural patterns of usage in Japan are historically unique outcomes. Further, it is not the technology itself that embodies this uniqueness, but rather a constellation of characteristics that must be viewed ecologically. In this, I am not ruling out that other countries may exhibit similar

characteristics or adoption trajectories. If nothing else, the international attention on Japanese mobile phone use guarantees that these developments will be the result of international conversation, comparison, and transnational technology development. The characteristics that I have described as personal, portable, and pedestrian are likely to find resonance in an increasingly linked set of international mobile cultures that both draw from and depart from the paradigms incubated in Japan.

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