Introduction:
Personal, Portable, Pedestrian[i]

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The three terms—personal, portable, pedestrian—point to a technological imaginary embedded in the social and cultural specificities of Japanese mobile phone use, interpreted on a transnational stage. In contrast to "the cellular phone" of the US (defined by technical infrastructure), and "the mobile" of the UK (defined by the untethering from fixed location) (Kotamraju & Wakeford 2002), the Japanese term, "keitai" (roughly translated, "something you carry with you"), references a somewhat different set of dimensions. 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.

This introduction serves to locate keitai as a particular sociocultural object in relation to the international state of mobile communications adoption and sociocultural research. Beginning with an overview of Japanese mobile society and culture in the transnational arena, this chapter introduces the theoretical themes and papers represented in this volume. Matsuda's introduction covers how keitai have been discussed and introduces researchers in the domestic context of Japan. Roughly corresponding to different methodological and disciplinary frameworks, these themes and corresponding book sections are 1) the social and cultural construction of technological systems (social history), 2) cultures and imaginaries (cultural studies), 3) social networks, relationships, and communications (sociological surveys), 4) technology, practice and place (ethnography), and 5) reports on new designs and developments. The concluding section identifies emergent dimensions of keitai-enabled social life that cross-cut these disciplinary divisions and theoretical debates:

Technological and Intellectual Geopolitics

Every since NTT DoCoMo launched its i-mode mobile Internet service in 1999 and was received with surprisingly high adoption rates, international attention has been trained on Japan as defining the future of "the mobile revolution." Although the US and Scandinavia initially held the lead in the deployment and adoption of mobile phones (Agar 2003), the rapid spread of Japan's mobile Internet services, the popular uptake of mobile devices, as well innovative handset design by Japanese companies, stole the wireless limelight by the turn of the millenium. 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). The heavy use of the keitai Internet and text messaging, as well as a particular variant of gadget fetishism, has made Japan distinctive in the transnational arena.

The view of Japan as a curiously urbanized hothouse for incubating the future of mobile technology is based on an international appreciation of how Japan has pushed the envelope on mobile technology design, business practice, and usage—an appraisal that seems well-placed given Japan's unparalleled levels of adoption of the keitai Internet (Matsuda

Introduction, this volume) and its steady march into new areas such as camera and video phones, location-based services, broadband keitai Internet, and m-commerce. Portable gadgets and wireless business models are a cornerstone of Japan's emergent "gross national cool" (McGray 2002), helping define a hip Japanese popular culture embodied in animation, video games, comics, food, and other Japanese cultural exports. Tamagotchi, Game Boys, Pokemon cards, and keitai are intimate, personal, and often cute media technologies scoring high on both Japanese cultural distinctiveness and global appeal (Iwabuchi 2003; Kinsella 1995; Tobin 2004). While recognizing the persuasively globalizing imaginary around Japanese technoculture, however, I would also like to insert some cautionary notes about using Japan as a template for a mobile future in other countries: we argue collectively in this volume for the international importance and even centrality of the Japan case, without losing sight of the specificities of social, cultural, and historical context in structuring the development and deployment of mobile phones.

The current Euro-American fascination with Japanese technoculture has deeper roots than the recent turn to the keitai Internet. Invoking Japan as an alternatively technologized modernity (or post-modernity if you prefer) is nothing new. At least since the late seventies, with rapid industrialization and emergence as an economic and electronics powerhouse, Japan has confounded Western models of modernization and technologization (Miyoshi & Harootunian 1989). Harkening back to the international attention focused on Japanese management and electronics in the eighties and nineties, current Western interest in Japanese mobile phones and technoculture echoes a similar mix of fascination and unease. On one hand i-mode is held up as a technological and business model to be emulated, on the other hand, discourse abounds on the cultural strangeness of Japanese techno-fetishism that casts it as irreducibly foreign. William Gibson's inspired cyberpunk Tokyo landscapes, *Wired's* steady stream of oddities in their "Japanese schoolgirl watch" column, ongoing coverage of the Japanese video game industry in Euro-American gaming magazines: Japan provides fertile fodder for a wide range of techno-imaginings that are valued at least in part because of their cultural distinctiveness. As Tim Larimer (2000) writes in his cover article for a special issue of *Time Asia* on "Gizmo Nation," "More than any other country on earth, Japan has put its faith—and future—in the hands of technology."

Despite the high-tech and postmodern trappings, transnational cultural politics retain many of the same contours of fascination and unease as the eighties: emulation of a "Japan as Number One" (Vogel 1979) economic success, coupled with the popularization of the image of the inscrutable Japanese salary-man. Coining the term "techno-orientalism," David Morley and Kevin Robins have argued: "Japan has come to exist within the Western political and cultural unconscious as a figure of danger, and it has done so because it has destabilised the neat correlation between West/East and modern/premodern" (1995: 160). And just as international attention fed back into a revitalized Japanese nationalism in the eighties (Yoshino 1999), mobile businesses have become a source of national pride even in the face of the post-bubble recession and failing political system since the nineties (Matsuda Introduction, this volume). Marilyn Ivy (1995: 8) describes a "coincident modernity" of Japan and the West which has led to an image of Japan as comprised of a core of tradition surrounded by protean outer trappings of modernity.

Despite the ascendancy of the vision (and fears) of a Japonesque mobile future for the world, there are reasons to question an eventual global technology upgrade to the latest and greatest Japanese version. The US, the supposed vanguard of the information society, has been stubbornly resistant to the allures of mobile messaging, and NTT DoCoMo's exported i-mode model has been facing challenges in Europe. Perhaps most significant are countries outside the high tech Euro-American-East Asian axis, particularly those using wireless to leap-frog from a struggling landline infrastructure into the information age. Famously armed

with cheap pre-paid phones, the mobilization of the Filipino "Generation Text" against Estrada demonstrates the explosive alchemies of a newly informatted generation mixing with repressed political tensions (Rheingold 2002, Agar 2003). In her ethnographic survey of international mobile phone use, Sadie Plant (2002: 75) writes about how wireless telephony is being introduced to villages previously lacking land-lines in places such as Swaziland, Somalia, and Bangladesh.

Hsain Ilahiane (2004) has found that among Moroccan urban poor who make their living with freelance service work, mobile telephony has become a means to organize a newly networked work life, resulting in income increases of often over 200%. In this context, mobile phones are as indispensable as they are for Japanese teens, but with striking differences in how and to what effect the phones are used. The features and services valued by these Moroccan users also differ from those used most frequently by Japanese keitai aficionados. Voice telephony is the dominant modality rather than text, the central modality for heavy mobile phone users in Japan and many other settings. These stories provide an important counterbalance to the weighting of international attention towards Japanese mobile cultures. While this volume contributes to this weighting, it also aims towards a certain parochialization and grounding of the Japanese case. The development of keitai uses and cultures is a complex alchemy of technological, social, cultural, economic, and historical factors that make it difficult to transplant wholesale.

Following the lead of prior international studies of mobile phone usage (Agar 2003; Katz & Aakhus 2002; Plant 2002; Rheingold 2002) this volume also seeks to interrogate the social and cultural diversity in mobile phone use. Our strategy, however, is to approach this issue not through a comparative or global survey of mobile phones usage, but rather through a multi-faceted and sustained engagement with one national context. An important dimension to our approach is to draw primarily from Japanese intellectuals, rather than surveying the scene from a more sweeping or exoticized viewpoint. All of the first authors in this book can stake some claim to being "native" intellectuals. Despite a vibrant business and policy literature and prolific coverage of the topic in the popular media, research literature on the social and cultural dimensions of keitia use in Japan has been curiously absent in the English-speaking world. Three edited volumes on social studies of mobile phones surveyed usage across a wide range of national contexts, including various European countries, the US, Korea, China, Philippines, Russia, Israel and Bulgaria (Brown, Green, & Harper 2002; Katz 2003; Katz & Aakhus 2002), but these volumes included no research on Japan. There are only a few articles in English on Japanese mobile phone use from a social or cultural perspective (Hjorth 2003; Ono & Zavodny 2004; Joseph, Holden, & Tsuruki 2003). The absences are not accidental (though still striking) given barriers of language and academic practice. Although a steady stream of English social scientific texts are translated into Japanese, the reverse flow is relatively rare; this volume seizes the opportunity presented by the current fascination with Japanese mobile phones to showcase native intellectual production as well as the intricacies and range of Japanese mobile cultures and social life.

Emergent Technologies, Emergent Theoretical Conversations

Current social and cultural study of mobile phone use is reminiscent of the state of the study of the Internet ten years ago. As new technical capabilities have entered popular consciousness and use, a small entrepreneurial community of researchers has been galvanized to develop new methods and frameworks for studying a differently technologized set of practices. Many of the same writers and researchers have entered this new field. Much as his book *The Virtual Community* (1993) heralded a groundswell of popular and academic interest in online social life, Rheingold's *Smart Mobs* (2002) is becoming a text that bridges and

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propels popular and academic interest in mobile communications. Academic researchers have been drawing the connections between Internet and mobile communications, juxtaposing and integrating articles in both camps through edited volumes such as *Virtual Society?* (Woolgar 2002), *Machines That Become Us* (Katz 2003), *Internet in Everyday Life* (Wellman & Haythrnthwaite 2002), and *Japanese Cybercultures* (Gottlieb & McLelland 2003). Many researchers have moved from Internet studies to mobile communication studies.

At the same time, mobile communications demand a set of engagements at various methodological, and theoretical points that differ substantially from how Internet study has proceeded. This has meant building interdisciplinary theoretical and methodological bridges between technology, media, and communication studies, as well as forging alliances across regional and national boundaries. Although we are still just beginning to define the conceptual frameworks for understanding the role of keitai in Japanese life, already a series of theoretical problematics are emerging that challenge frameworks from Internet and communication studies. What follows is a discussion of these theoretical problematics in relation to the sections and papers that form the body of this book. The framing is inflected by my own background in Internet research and positioning between the Japan and US.

The Social Construction of Technological Systems

As described above, the intellectual and technological geopolitics of mobile media have foregrounded sociocultural diversity in a way that was not at least initially evident in Internet studies. Unlike the Internet, where the US has dominated both development and adoption trends, contemporary mobile communications have been driven forward most prominently by Asian and European countries, upsetting the geopolitics of information technology advancement. This disruption of the status-quo, combined with the diversity in implementation of mobile communications infrastructures, has meant that wireless technology, from the start, has been seen as located in specific social, cultural, and historical contexts, rather than seen as a cross-culturally universal solution (as Internet protocols are often cast as). Perhaps the most frequent question that I have received in relation to my work on Japanese keitai use has been, "Yes, but to what degree is all of this specific to Japanese culture?" It is difficult to imagine a similar question being asked with such frequency of the Internet as an artifact of US culture.

A growing cadre of researchers has been insisting that PC hardware and Internet protocols and infrastructures also rest on a set of social and cultural predispositions. For example, Jason Nolan has argued that the "hegemony of ASCII" systematically discriminates against certain languages (Nolan. forthcoming). Related critiques have been mounted from the viewpoint of gender difference (Cherny & Weise 1996) and generational identity (Ito, O'Day, Adler, Linde, & Mynatt 2001). Studies of Internet use outside of North America were off to a slow start, though now are comprising a growing body of literature (for example, Miller & Slater 2000; Gottleib & McClelland 2003; Wellman & Haythornthwaite 2002; Woolgar 2002). In their contribution to this volume, Kakuko Miyata, Jeffrey Boase, Barry Wellman, and Ken'ichi Ikeda describe the continued international variability in forms of Internet uptake despite original expectations that other countries would follow the American model. In contrast to Internet research, the first volumes of mobile phone studies represented a wide range of national contexts (Brown et al. 2002; Katz 2003; Katz & Aakhus 2002). This volume exploits this international perspective. Rather than having to argue for it, we build on the recognition that technology does not have characteristics independent of social and cultural setting. Further, the Japan mobile Internet case represents a counterweight to the notion that PC-based broadband is the current apex of Internet access models; ubiquity, portability, and lightweight engagement form an alternative constellation of "advanced"

Internet access characteristics that stand in marked contrast to complex functionality and stationary immersive engagement.

In the case of the PC Internet, differences in adoption were most frequently couched in terms of a digital divide, of "haves and have-nots" in relation to a universally desirable technological resource. By contrast, mobile media are characterized as having different attractions depending on local contexts and cultures. The discourse of the digital divide has been mobilized in relation to Japanese keitai Internet access (Matsuda Introduction, this volume), and is implicit in the discourse suggesting that the US needs to "catch-up" to Japanese keitai cultures. At the same time, uptake of mobile communications has tended to be viewed less as a singular trajectory towards a universal good as a heterogeneous set of pathways through diverse sociotechnical ecologies. For example, the US has been characterized by slow uptake of texting and mobile Internet usage. This could be attributed as much to the greater presence of PCs and broadband access as to inadequate business models and technological standards. In the US, mobile phones are not universally heralded as an "advance," but have continuously been questioned as a problematic technology that erodes personal space. Meanwhile, mobile messaging and web access have been questioned as a second-rate version of their PC counterparts. The metaphor of a digital divide does not fully describe an arena that was from the start characterized by multiple deployment trajectories.

Rather than seeking to "explain" and transcend transnational differences in uptake of a technology, this volume takes cultural, social, *and technological* specificity as a starting point. We critique a pervasive assumption that society and culture are irreducibly variable but technologies are universal. In this, we join ranks with various approaches to the social construction of technological systems (for example, Bijker & Hughes 1993; Bijker & Law 1992; Callon 1986l Dourish 2001; Hine 2000; Suchman 1987; Wellman 1999). These approaches posit that technologies are both constructive of and constructed by historical, social and cultural contexts, arguing against the analytic separation of the social and technical. Although not necessarily an explicit project, research agendas that survey across a wide range of national contexts can have the effect of producing a perception that we are dealing with a singular technology deployed across multiple settings. James Katz and Mark Aakhus (2002: 310) state this stance explicitly in positing an "*Apparatageist*" of "perpetual contact": "*Apparatageist* can be broadly vocalized because universal features exist among all cultures regarding PCT [personal communication technologies].... Regardless of culture, when people interact with their PCTs they tend to standardize infrastructure and gravitate towards consistent tastes and universal features." By contrast, the approach here is that technological universiality, rather than being a structural given, takes effort to produce; it is a special effect of a transnational sociological gaze fixed on a singularized technological revolution.

The current variability in wireless deployment is not necessarily "on its way" to becoming standardized towards universal access, but is a symptom of fundamentally heterogeneous and resilient sociotechnical formations that vary across lines such as nation, class, institutional location, and age. Our narrative is not of a single technology disseminated to multiple contexts, but of the heterogeneous co-constitution of technology across a transnational stage. Although we may see a transnational alliance push for the emergence of technological standards that integrate the current international patchwork of protocols and infrastructures, this does not mean a homogenizing of imagining, use, and design. Unlike the Internet's origins with a relatively narrow and privileged social band (educated, white, male, North American), mobile technology owes not only its uptake but its actual form to people on the social and cultural peripheries: Scandinavian texting teens, pager cultures of Japanese teenage girls, multi-tasking housewives, Filipino youth activists, mobile service workers. Clearly cross-national similiarities in the form and usage of these new technologies abound. I

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would argue, however, that they result from similarities in structural conditions and transnational articulation, rather than as an outcome of a context-independent technological gestalt. For example, the international boom in youth texting cultures stems from the similar position that youth occupy in post-industrial societies (Ito & Okabe, Forthcoming).

The two opening papers in this book describe the development and deployment of keitai in Japan as structured by particular social and cultural contexts and historical junctures. Tomoyuki Okada describes how keitai cultures developed out of the fertile ground of youth street practices and visual cultures and a history of text messaging that extended back to youth pager use from the early nineties. Drawing from his own interviews with youth as well as historical materials, he illustrates how Japanese youth cultures pushed mobile media in the direction of personalization and multimedia functionality, presenting an alternative design paradigm that differed from the original thrust towards networking business institutions. From the perspective of an engineer and executive at NTT DoCoMo, Kenji Kohiyama's contribution focuses on a pivotal decade in the development of Japanese mobile communications, between 1993-2002. He describes the historically contingent details of certain key junctures, particularly the competition between the pager, Personal Handyphone (PHS), and keitai in the mid nineties. The internal details describing the emergence of cellular-based DoCoMo and the i-mode model as a national standard in the late nineties demonstrates the local vagaries of technological implementation and concretizes the contention of constructivist orientations to technology; it could have been otherwise.

Cultures and Imaginaries

Returning to Internet studies as a productive point of theoretical contrast, we again find an intriguingly different set of issues in the field of cultural analysis. Much early Internet research grew out of theoretical interests in virtual reality and cyberspace. In their review of Internet ethnography, Daniel Miller and Don Slater (2000: 4) critique "that earlier generation of Internet writing that was concerned with the Internet primarily through concepts of 'cyberspace' or 'virtuality.' "These terms focused on the ways in which the new media seemed able to constitute spaces or places *apart from* the rest of social life ('real life' or offline life)." Christine Hine (2000: 27) has a similar view of "virtual ethnography": "A focus on community formation and identity play has exacerbated the tendency to see Internet spaces as self contained cultures, as has the reliance on observable features of social organization." Miller and Slater (2000: 5) suggest that we start from an assumption, now well-established, "that we need to treat Internet media as continuous with and embedded in other social spaces, that they happen within mundane social structures and relations that may transform but that they cannot escape into a self-enclosed cyberian apartness." By integrating ongoing work on social networks with studies of new communication technologies, Wellman (1999) has made complementary arguments about how the Internet articulates with existing personal and communal networks.

The extroverted, out-of-doors nature of mobile communication, as well as its low-profile origins in the pedestrian technology of telephony, has meant that the "online" domain of mobile communications has not been experienced as cut off from everyday reality, places, and social identities. Internet studies have been increasingly tracing the colonization of real life identity and politics into the hitherto "free" domain of the net; keitai represent the opposite motion of the virtual colonizing more and more settings of everyday life. Haruhiro Kato analyzes latent themes in video productions by Japanese college students on the subject of keitai. Narratives center on the imagining of a life without keitai. In their comments and their productions, students portray keitai as a thoroughly mundane and indispensable aspect of their everyday lives. Narrative tension and drama is created simply through the imaginary

force of extracting keitai from their life; very few narratives explored the possibility of alternative online identities and worlds through the medium of the keitai.

Rather than something inherently disjunctive, the keitai suggests a vision of the virtual seamlessly integrated with everyday settings and identities. With a broader brush, Kenichi Fujimoto surveys what he describes as a "new cultural paradigm" in mobile communications defined by youth street cultures. He frames keitai as a business oriented technology that was hijacked by popular youth consumer cultures in the late nineties. For Fujimoto, the keitai supports a "*nagara*" (while-doing-something-else) cultures of kids constantly co-habiting online and physical worlds, and they are "anti-ubiquitous territory machines" that carve out spheres of personal space within the urban environment. Rather than a set of technologies incubated by an elite and non-commercial technological priesthood, gradually disseminated to the masses, keitai came of age as a mass consumer technology framed by cultures of gadget fetishism, and techno-fashion. Unlike the immersive and often escapist idioms mobilized around Internet social life, Fujimoto suggests that keitai function more as a medium of lightweight "refreshment" analogous to sipping a cup of coffee or a cigarette break. It is a street-level device packaged and mobilized in the ongoing status displays of everyday life.

Social Networks and Relationships

Study of mobile communications lies at a hybrid nexus between computer-mediated-communication studies and personal communication studies. In contrast to Internet studies which initially mobilized around the study of "community" online (Jones 1995, 1998; Rheingold 1993; Smith & Kollock 1998), mobile communication studies have been characterized by a focus on private communications and connections between intimates. Multiple chapters in this volume suggests how, for most heavy users, the keitai reinforces ties between close friends and families rather than communal or weaker and more dispersed social ties. In line with research findings in other countries (Grinter & Eldridge 2001; Eia-Liisa Kasesniemi 2003; Eija-Liisa Kasesniemi & Rautianinen 2002; Richard Ling & Yttri 2002), Japanese youth send the majority of their mobile text messages to a group of 3-5 intimates (Ito & Okabe, this volume, Ito, Forthcoming; Matsuda, this volume). These findings contradict moral panics over fast and footloose keitai street cultures (Matsuda Introduction, this volume). Far from being a tool for producing indiscriminate social contact in the undisciplined public urban space, most youth use keitai to reinforce existing social relations fostered in the traditional institutions of school and home (Matsuda 2000). As Richard Harper (Forthcoming: 194) found in a survey of usage in the UK and Germany, "people who knew each other before the onset of GSM now use the technology to call each other more often," what he calls a process of "invigorating" social relationships.

Miyata, Boase, Wellman and Ikeda (this volume) found that keitai usage correlated with a greater volume of emails to people geographically and socially closer than those sent by PCs. These findings tie into their conclusions which build on Wellman's theory of "networked individualism": the trend towards individualized over more traditionally communal and spatially defined social ties. "The person has become the portal." Matsuda's description of "selective sociality" also notes that keitai participate in a similar trend towards intentional contact with intimates at the expense of both given and serendipitous relationality. While new communication technologies are tied to an expansion in the range of partners and means to communicate, most communication gets channeled into a narrow and highly selective set of relationships. Matsuda also locates keitai in an ecology of personal communications in Japan which has increasingly valued the discursive production of intimacy, particularly between family members and couples. Telephone calls and keitai

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messages become one way to create a "full-time intimate community" (Nakajima, Himeno & Yoshii 1999). Further, keitai enable the maintenance of close friendships fostered in community institutional contexts like neighborhood play groups and middle schools even after people may have dispersed to different schools or workplaces.

These intimate circles of contact are what Ichiyo Habuchi describes as "tele-coccooning," the production of social identities through small, insular social groups. In contrast to this more prevalent mode of relating, Habuchi and Hidenori Tomita focus on new forms of meeting and relationship-building through *deai-kei* (encounter/dating) sites, *bell-tomo* (relationships fostered through pagers) and *meru-tomo* (relationships fostered through mobile email). Habuchi's chapter provides an overview of *deai* practices among Japanese youth, analyzing the current role of keitai communications. She focuses in particular on the new practices that emerged with pager cultures, particularly relationship-building between people who never meet face-to-face. While only a small minority of young people (7.9%) report they engage such relationships through pagers or keitai, they represent a significant subcultural trend among youth who seek relationships outside traditional peer structures. She analyzes the emergence of this minority as a side effect of the growing mainstream reliance on tele-cocooning to define social identity. The narrowness and intimacy of peer groups produces a claustrophobic reaction in some. In a related move, Tomita focuses more specifically on *deai* cultures through telecommunications and the emergence of the "intimate stranger" as a new and compelling kind of social relationship. Reviewing the development of anonymous encounter sites in voice mail and "telephone club" systems of the eighties, Tomita provides historical context to contemporary *deai* practices which are flourishing on both the PC and keitai Internet. Although consistently marginalized and denigrated by the mainstream, anonymous *deai* sites represent a variant form keitai-mediated relationality that is an inseparable shadow to the more prevalent forms of keitai usage.

Taken together, the papers in this volume suggest that keitai are implicated in a heterogenous set of shifts keyed to social and cultural differentiation and growing out of prior forms of practice. In other words, we see reason to be skeptical of sweeping claims describing a shift to a new "mobile society" characterized by the increasing predominance of dispersed and fragmented networks over localized and integrated ones; or most classically, the shift from *Gemeinschaft* to *Gesellschaft* (Tonnies 1957). While we do see the strengthening of discourses and bonds of intimacy and selective relationality, the forms that these take in everyday practice are so varied and that they can not be reduced to a march towards a singular model of sociability. In fact, the studies in this volume point to the resilient salience of structuring institutions such as life stage, school, workplace, and home in contextualizing and differentiating social relationships. Even among youth, the focus of this section of the book, there are significant variants in the way social networks are created and maintained. In the ethnographic cases that comprise the next section, studies of different social groups such as workers (Tamaru and Ueno) and housewives (Dobashi) provide even more evidence of how stratification of cultures and practices demand different forms of communication and relationships. As Harper (Forthcoming: 187) has argued, "The mobile age is not rendering our society into some new form, it is, rather, enabling the same social patterns that have been in existence for quite some time to evolve in small but socially significant ways."

Practice and Place

While community studies were the driving force in early Internet ethnography, studies of mobile usage in public space constituted the initial focus of attention for mobile ethnography (Ito & Okabe 2003; Rich Ling 2002; Murtagh 2002; Plant 2002; Weilenmann & Larsson

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2002). Consistent across both of these foci is the tendency for ethnography to gravitate towards sites of publicly observable communal action, whether online or physically located. Studies of mobile phone use in settings such as public transportation (Okabe & Ito, this volume) and restaurants (Ling 2002; Taylor & Harper 2003) continue to provide important insights on topics such as identity display, manners in public space, and the situational constraints on mobile phone use. At the same time, it is becoming clear that mobile communication studies need to engage with a reconfigured methodological toolkit that takes into account both public and private communications and their layering within any given setting. This means designing new observational methods to document private communication and trace practices that span physically demarcated localities. In contrast to questionnaire and interview methods that were the foundation of the prior section of this book, practice-based studies of mobile sociality demand a substantial revisioning of traditional ethnographic method as well as theory. The ethnographic papers in this section represent a range of approaches including diary-based study (Ito & Okabe), shadowing of users (Tamaru & Ueno), visits and interviews in domestic space (Dobashi), and observations in public places (Okabe & Ito).

Daisuke Okabe and my first contribution to this section takes on the issue of manners in public places, the entry-point for much ethnographic work on mobile phone usage. The ethnographic core of the paper is a series of observations on public transportation, framed by ethnographic interviews regarding keitai manners and a survey of public discourse on the topic. The paper describes the evolution of the current social consensus that silent uses of keitai (email, web) are permissible on public transport, but that voice communication is not. It also documents how this social order is instantiated at an interactional level, describing the subtle strategies for how users handle gaze and voice in disciplining and managing social transgressions. In contrast to the public social setting of the train, Shingo Dobashi examines the domestic setting of the home, focusing on the practices and identity-construction of the Japanese housewife in relation to keitai. The public transportation work is a study of keitai regulation and disciplining; Dobashi provides a parallel case in the domestication of technology in the private sphere. Dobashi describes how the keitai becomes integrated into the existing political and social configuration of the home and the resilient identity of the housewife. In contrast to the PC, which demands a certain amount of focused engagement, housewives prefer the keitai Internet which fits into the need for constant "micro-coordination" (Ling & Yttri 2002) in managing family relationships, and the fragmented temporal demands of domestic work. He argues that the case of housewife keitai usage provides an important counterpoint to the focus on social change and youth street cultures. Domestication demonstrates variable uptake depending on social location as well as the conservative dimensions of the new technology. Taken together, both papers represent case studies in the maintenance of social orders through the regulation and domestication of new technologies.

Eriko Tamaru and Naoki Ueno's study of copier service technicians represents another counterpoint to the field's focus on youth cultures. Their fieldwork has involved interviews and shadowing technicians as they travel about their service area. They describe how a simple mobile Internet bulletin board system has transformed the service technician's experience of place and the work of social coordination by providing them with constant and lightweight access to information on their colleagues' location and dispatching. Again, a new technology has been domesticated by a highly structured social order, but it has also enabled new forms of communication and uses of place. This study joins ranks with a small but growing corpus of work that documents how mobile phones are part of an assemblage of technologies that constitute distributed workplace (Brown & O'Hara 2003; Churchill & Wakeford 2002; Laurier 2002; Schwarz, Nardi & Whittaker 1999; Sherry & Salvador 2001).

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My and Okabe Daisuke's contribution to this section rests on a notion of "technosocial situation" as the frame for practices that hybridize technological, social, and place-based infrastructures. For example, mobile texters have developed practices for conducting online chats that are keyed to their motion through different physical locales. We rely on a diary-based method of data collection adapted from prior mobile communication studies. Both our study and Tamaru and Ueno's study represent an attempt to conduct fieldwork on and theorize practice and place as constructed through an interaction between physical and geographically-based structures and technologically-mediated remote connections. These two studies both draw from and exceed frameworks from face-to-face interaction which have been foundational to practice based study; we continue to attend to the details of local social orders but do not take for granted grounding in physically co-present encounters.

In contrast to Internet communication and community studies (where most work continues to focus on the online setting without taking into account the physical locale of the users), mobile communication studies are tied to a revitalized attention to locality and place. As referenced in the prior section on culture and imaginaries, the keitai Internet has never been imagined as a domain of "cyberian apartness" from everyday physical reality, but has always been a site of tension and integration between the demands of face-to-face encounters and footwork and the demands of the remotely present encounter and visual attention to the handheld screen. Keitai users are characterized by their attention to and immersion in the physical environment and social order, even as they increasingly maintain contact with distant personal relations through an intimate portable device. The keitai both colonizes and adapts to the structures of existing practices and places. A crucial emergent area of inquiry is the need to theorize the layering of different forms of social and physical presence and to study interactional practices for managing simultaneous presence in multiple social situations.

The social life of the keitai resonates with research traditions in computer science of "pervasive" or "ubiquitous computing" which have argued for a model of computing more seamlessly integrated with a range of physical objects, locations, and architectures (Dourish 2001; Grudin 1990; McCullough 2004; Weiser 1991; Weiser & Brown 1996). In many ways, contemporary keitai usage is an instantiation of these visions of computation as it has migrated away from the desktop and into more and more settings of everyday life. Yet the contemporary keitai usage differs substantially from many of the visions of sensors, smart appliances, and tangible interfaces that characterize the field of ubiquitous computing. What the work in this volume demonstrates is that "ubiquitous computing" might best be conceptualized not as a constellation of technical features, but as *sociotechnical practices* of using and engaging with information technologies in an ongoing, lightweight, and pervasive way. In line with Paul Dourish's (2001; 3) phenomenological stance, "I am more concerned with interaction than with interfaces, and more concerned with computation than with computers." In this formulation, the features of portable, personal, and pedestrian refer not to technologies, but to action and experience that can be altered and enhanced by new media technologies.

Emergent Developments

The final section of this book contains two chapters that are less full research papers as much as they are reports on new developments in the area of keitai use. Miyaki's chapter reports on the growing adoption of mobile phones by elementary and middle-school children, the reasons cited for adoption, and their usage patterns. Kato, Uemoto, Okabe, and my chapter on camera phones is a preliminary foray into how these new devices are beginning to be used

and might be used in the future. The camera phone is tied to new visual literacies that are being articulated in relation to the pervasive presence of social connectivity.

Conclusions

This introduction and the body of this book have been organized by theoretical and disciplinary conversations at the expense of highlighting cross-cutting interdisciplinary themes. In conclusion, I would like to use some broader strokes to invoke a more speculative picture of the patterns emerging from the interdisciplinary linkages this volume represents and bring the research discussion back to the issues surrounding Japan in the transnational arena.

One cross-cutting theme is the salience of "the personal" and discourses of intimacy in keitai communications. Decisive was the shift in the late nineties from keitai primarily identified as a business tool to identification as a tool for personal communication and play. Now, even when being used for "serious" work purposes, keitai in the workplace and in public places generally (and often negatively) invoke "personal business." Even before the keitai Internet, voice communications created a juxtaposition between private affairs and public place, tagging the keitai as a narcissistic device that invaded the communal with the demands of the personal. Now, widespread mobile email and other online communication tools mean that these intimate spheres are even more pervasively present; mobile text and visual communication can colonize even communal places where telephony would be frowned upon (ie., public transportation, classrooms, restaurants). The micro-coordination between family members and the ubiquitous spaces of intimacy between young couples and peers are the most evocative of these new dimensions of always-on intimate connection. Even workplace studies have documented the keitai's now indispensable role in coordinating small and tightly coordinated workgroups. These tele-cocoons and full-time intimate communities represent an expansion of the long-standing sphere of intimate relations. The papers in this volume have only just begun to explore the profound implications for the production of social identity, the experience of public and urban spaces, and the structuring of institutions such as the households, couples, and peer groups.

This dimension of the pervasively personal is tied to an out-of-doors and low-profile vision of informational and communication networks which goes against the metaphors of indoor, immersive experience that have dominated our imaginings of virtual reality, cyberspace and Internet social life. The keitai's social value is tied to its colonization of the small and seemingly inconsequential in-between temporalities and spaces of everyday life. Whether it is the quick text reminder sent by a multi-tasking housewife, the service technician who wants to keep track of which of their team members is out to lunch, or young couples texting sweet nothings as they take the bus to school, keitai connectivity is a seeping membrane between the real and virtual, here and elsewhere, rather than a portal of high-fidelity connectivity that demands full and sustained engagement. Metaphors of keitai engagement are as often side-by-side as they are face to face, as much about ambient and peripheral awareness as they are about demanding attention in the here and now.

The mostly-young natives of the keitai-pervaded world experience social presence through pulsating movement between foreground and background awareness rather than though clearly demarcated acts of "logging in" or "showing up" to a sociotechnical space. This is a view of the mobile universe that sees remote and networked relations as a pervasive and persistent fixture of everyday life, rather than something that is specifically invoked through the intentional acts, like making a phone call or powering up a networked PC. This is about the seamless and unremarkable integration of this so-called "virtual domain" into

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more and more settings of everyday life, simultaneously residing both here and elsewhere as a comfortable and unremarkable social subjectivity.

The papers in this book have documented keitai's incorporation and domestication into a wide range of social practices and institutions. Even within Japanese society, we can see usage stratified along lines of age, gender, and profession. Mobile phones are characterized by malleability in uptake, while they also serve as an articulation of a distinctive new model of communication. As we work to identify factors in stratification in keitai usage, we may find that certain social categories trump national identity as a predictor of usage. Already, cross-cultural comparison of youth usage indicates that social structural location can determine uptake more than the specifics of technology deployment or business models. Youth texting cultures have caught on in a wide variety of post-industrial social contexts despite very different technological infrastructures and deployment trajectories. These types of resonances suggest other ways we can frame and define study of technological systems that differs from the nation-based frame that we have developed for this particular book.

As I discussed earlier in this chapter, our aim with this book is not to hold up Japan as a nation that defines the mobile future for other countries, nor to suggest that Japan is irreducibly culturally other in its approach to technology. Rather, by locating Japanese keitai usage and discourse in historical, social, and cultural context, our hope is, somewhat paradoxically, to move beyond national identity as the primary tag for social and cultural distinctiveness. Stressing heterogeneities *within* Japanese culture and society, the papers collected describe current keitai use as contingent on a wide range of social, technical, and cultural factors, some of which might be shared with certain social groups elsewhere, others which may not be. In other words, we argue against the idea that variable technology usage is an outcome of a "universal" technology (the mobile phone) encountering a "particular" national culture (Japan); both technology and culture are internally variable and distinctive. Japanese keitai usage is not a transparent outcome of "Japanese culture," but emerges from of a historically specific series of negotiations and contestations within and outside of Japanese society.

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