

***Satu Keluarga, Satu Komputer* (One Home, One Computer): Cultural Accounts of ICTs in South and Southeast Asia**

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Footnotes begin on page 55.

Introduction

A man in a business suit stands on the edge of the crumbling sidewalk in the heart of Mumbai's financial district. He is holding a briefcase in one hand; his mobile phone is ringing in the other. He answers it, dodging the beggars and the vendors selling freshly squeezed limejuice and roasted peanuts. He pauses on the sidewalk, listening intently. In the background, the evening rush hour commences—goods carriers hurtle past him, black and yellow taxis spewing black smoke, and a mad crush of pedestrians, scooters, and bicycles. There are men painting billboards by hand, writing URLs and street addresses with the same precise penmanship. The lampposts along Cuffe Parade are decorated with square orange boxes, advertising a new mobile phone service, but none of the lights are working. The newspapers carry stories about the pending legal action against a local greeting card company to prevent them from selling Valentine's Day cards. It is February 2002 in India.¹

Anthropologists have recently suggested that Information and Communication Technology (ICT) are as much about social practices as they are about technologies. As one researcher put it, "Our domestic life is, of course, suffused by technology, and information and communication technologies are becoming a central component of family and household culture."² Ethnographic work also has highlighted the ways in which experiences of ICTs are informed by culture and context. For the most part, this literature has focused on Western cultures, particularly in the U.S., UK, and Australia.³ However, as the cultural contexts for the consumption of ICTs shift and expand, so do the experiences that ICTs support and transform.

Given that the number of ICTs in Asia has been rising for more than a decade, and their range expanding, there has been surprisingly little research into the ways in which such technologies have been deployed, received, consumed, or resisted. Mobile phones as a marker of elite social status caught academic attention in the late 1990s;⁴ however, a more nuanced understanding of their place in

daily urban life has not been forthcoming. Although there has been a long-standing injunction in anthropology to “study-up” the social-hierarchy,⁵ and a recent call from the American Anthropological Association to pay more attention to the middle classes,⁶ ethnographic interest in this topic has been slight. The emerging middle classes have been the subjects of considerable academic inquiry in Asia, especially during the boom years of the early 1990s.⁷ However, ICTs, with the notable exception of mobile phones, were not a part of this analysis. Urban centers, themselves, also have been a focal point of analysis,⁸ but not the role of ICTs within those cities, or in constituting new forms of those cities.⁹ There certainly has been work examining the impact of new forms of technological infrastructure on Asian culture,¹⁰ and there is a long and venerable tradition of studying the media in Asia as sites where meaning and identity are produced and contested.¹¹

In this paper, I draw on my own recent ethnographic research in South and Southeast Asia. This research attempts to locate ICTs at their sites of consumption in urban Asia—in daily life and domestic spaces in India, Malaysia, Singapore, and Indonesia. I cast ICTs broadly, taking in personal computers (PCs), public computing sites (i.e., “cyber cafes,” Web-access kiosks, and gaming arcades), the Internet, mobile phones, other wireless devices, and the various infrastructures that support them. I wish to articulate a more localized, yet also comparative, understanding of the ways in which technology operates and is understood—a cultural account of ICTs. In particular, I am interested in the ways in which Asian cultural and social practices are shaping the ways in which ICTs are deployed and consumed, suggesting an array of very different trajectories for technology development and adoption. I argue that paying attention to the experiences of Asians across a range of geographies and situations interrupts the discourses of modernity and globalization that have middle-class American professionals at their center as imaginers, producers, and consumers of ICTs.

This paper is divided into five sections. In the first section, I discuss my current research projects, and their methodologies and theoretical underpinnings. This project privileges the “home” as a significant site at which meaning is produced, and into which technology is situated. In the second section, I reflect on the ways by which ICTs, specifically the PC, have found their way into Asian homes. Here I am interested in the ways in which PCs map onto the existing domestic sphere. Having located PCs in the home, the third section of the paper engages the Internet as a set of social relations and domestic practices. Throughout this paper, I am also mindful of the ways in which ICTs connect the home to larger social frameworks. Finally, in sections four and five, I examine mobile phones and public computing as important components of daily life in Asia, paying particular attention to the ways in which these ICTs also are embedded within a culturally constructed context.

1. Inside Asia: The Project

I am sitting in a hotel room in Jakarta. I log on through a server in Singapore, connected to another in Santa Clara, to access my inbox at work and keep up with the daily routines of my office in Hillsboro, Oregon. I send requests for citations to San Francisco, Hong Kong, and London. I send digital images of the view out my window to my mother in Washington, DC. I send questions back to the households I have just visited in Ipoh and Hyderabad. I receive e-mail from people I interviewed, updating me on things in their lives, connecting me to their friends and family in other places. I send my field notes to Portland. I answer queries from colleagues in Italy and Australia. Words and images fly around the world.

In the fall of 2001, I embarked upon a new two-year project to gain a better understanding of the lifestyles, aspirations, and habits of the emerging middle classes (including the “new rich”) across a number of very different Asian countries including China, India, Indonesia, South Korea, Singapore, and Malaysia.¹² The project, with its working title “Inside Asia,” entails ethnographic fieldwork in major urban centers and regional hubs across Asia. I have focused on such sites because they represent leading centers for ICT consumption. Thus far, field sites typically have included the nation’s capital and major centers of finance and industry, as well as growing technology hubs. It also has been important to get some regional variation where appropriate. Here anthropologist George Marcus’s notion of the multi-sited ethnography is instructive. His work offers one way to imagine doing fieldwork in and across a range of different geographies.¹³ Marcus suggests that, in framing research across multiple sites, you choose to follow the people, follow the thing, follow the metaphor, follow the plot, story, or allegory, follow the life or biography, or follow the conflict. In this project, I would argue, we are following the object—ICTs—across a range of sites in urban Asia, paying particular attention to the ways in which this object is embedded in daily lives and social practices.

Research for this project is to be conducted in three to four urban centers in each of the target countries, visiting at least five homes in each center. As of December 2002, I have completed ethnographic fieldwork in four Asian countries, visiting more than fifty households across ten urban areas. In February and March, I conducted research in India, visiting households in Pune, Hyderabad, and Chandigarh. In June and July, I conducted research in Malaysia and Singapore, visiting households in Singapore, Penang, Ipoh, and Kuala Lumpur. In August, I conducted research in Indonesia, visiting households in Jakarta, Pekanbaru, and Surabaya. Thus far, households for this project have represented a relevant diversity of household types in the “middle class” category, as well as a certain coherence of experiences and patterns of daily life. I have explicitly selected households with a wide range of technology experiences and awareness.¹⁴

In previous ethnographic research in the United States and Europe, I have found that it is extremely important to spend time with families in their houses, observing and participating in their day-to-day activities.¹⁵ This perspective helped to establish a sense of family structure, organization of time, location and relation of home to public spaces, use of space and existing technologies, as well as point to opportunities for new uses and new users of computing. This research project in Asia relies on a similar range of qualitative data collection methods, including household visits, semi-structured interviews in the home, photographic and technology inventories of households and homes, observation and follow-up in key public spaces (including retail spaces), and a sampling of material artifacts and icons. In addition, I have worked closely with area specialists to contextualize and interpret all the data collected—these area-specialists have joined me in the field, participating in data collection and analysis, and providing another perspective.¹⁶

The ethnographic work is driven by a series of larger questions about the ways in which ICTs are embedded within daily life and social practice. Although obvious questions such as who “owns” technology objects (individuals, households, families, communities), who uses technology objects and when, who purchases these devices and how such purchase decisions are made are all of interest; there are two broader areas of concern. First, I am interested in contextual questions, the cultural piece of the puzzle; and, second, I am interested in the ICTs themselves. It is the relationship between these two things—the cultural context and the technology—that drives this research.

I have argued elsewhere that new technologies are inserted into complicated ecologies of experiences and physical environments, and that their successes and failures turn on their abilities to fit into such ecologies.¹⁷ The home is one such ecology. In order to understand how ICTs fit into the home ecology, one must understand how that home ecology functions: who live there, what sorts of experiences and activities people are engaged in within the homes, and how people divide up domestic spaces (both in terms of real use patterns and ideal use patterns) to support these experiences and activities. The ways in which such divisions are manifested and maintained, and how they map onto the social and other activity hubs within the home, are critical questions. Overlaying ICTs onto this grid of social meaning produces a sense of interplay between technology and allocations of time and space within the home.

Of course, the home exists within a broader social and cultural landscape. In order to determine the relationship between the domestic space and work and public places, it is important to know a number of things including: the ways in which people talk about their homes in relationship to other spaces (i.e., private/public, sacred/profane, pollution/purity, female/male); important social

and cultural spaces outside of the home; and the kinds of activities people engage in these non-home spaces. It also is important to have a sense of how porous the boundaries between home and the broader world are in order to better understand how ICTs might traverse these different spaces.

As much as the home exists within a broader social milieu, so do ICTs. These are objects that have acquired a set of meanings that extend beyond their technological specifications. These meanings are negotiated through relationships of gender, class, and race, but also in relationship to state policies and market forces. To understand the ongoing place of ICTs within urban Asian homes, one must have an understanding both of state policies that frequently regulate ICTs and their usages, but also important consumption patterns and protocols including the structure of commerce, the role of money, the nature of the market, and the ways in which individuals operate within these economies. Furthermore, one also must have an understanding of the ways in which people's aspirations are reflected in their purchasing decisions, especially around ICTs that are embedded within a discourse of modernity and globalization.

2. Bringing Computers Home

Aboli lives with her husband, Ajit, and their two teenage children, Anish and Amrita, southwest of downtown Pune. Ajit's mother also lives with them in their large, four-bedroom apartment. The family has a computer—a desktop PC that sits in the corner of the master bedroom. Aboli keeps tight control of what her children do on the computer. Anish, who is the principal user, is not allowed to surf the Web without his parents' supervision, and he is not allowed to "chat" with other users online. His parents say, "He chats with his friends all day at school, he doesn't need to come home and talk to them more." Anish does send e-mail—about once a week, he says. He sends e-mail to his friends, and also for his mother to her friends and family in Canada. Aboli recently took a basic computer course, but she says, "The computer just somehow isn't of my use." Ajit uses a computer at work but, at home, he doesn't have a lot of time for it. He says, "Sometimes I play games, but really I just don't have that much time." The family had their first computer assembled about four years ago, and has upgraded it once since then.

Like many of their peers, for Aboli and Ajit, this PC represents an important domestic purchase. Yet, as one British sociologist reminds us, "Home computers are not just commodities that are traded for a price in the market; they also are the site of a continual cultural struggle over the meaning of the machine and its appropriate uses."¹⁸ Statistics might be hard to compile, but one of the most striking features of the domestic computing landscape in Asia is that it appears that, for the majority of Asian consumers, their first encounters with PCs will not be in the workplace. So unlike the

United States and to a lesser extent Europe, in Asia, the PC does not have to be perceived as an object of efficiency, embedded within a single-actor, single-task environment. Rather, it is emerging within the context of domestic life, within the home, and the patterning of that space.

It also seems to be the case that, in Asia, in part because of the point at which PCs appeared on the market, they are indistinguishable from the Internet. Indeed, in all of the households I visited, if there was a PC at home, it was used to access the Internet. Apparently, a computer has no real social or cultural meaning in Asia unless it is connected to the Internet. This connection has not gone unnoticed by those selling both computers and Internet services; marketers in India, Malaysia, and Singapore link the PC to the Internet in advertising and sales promotion.¹⁹

The role of the government in driving technology adoption should not be ignored. Computers, and the Internet, often are part of government agendas for social reform and modernization projects: making government services available online, and promoting the use of personal computers in classrooms and hospitals. Among the Indian households I visited, the vast majority acquired their PCs in 1996–7 at the beginning of the IT boom in India, and all talked about the ways in which the Indian government promoted the Internet. In Singapore, the government bore the costs of establishing a high-speed data access network around the island. In the late 1990s in Malaysia, there was a moratorium on the use of and exposure to PCs in early childhood, with some strict restrictions about their use in primary school. However, the government also launched a “One Home, One Computer” program in the mid-1990s to encourage Malaysian families to buy domestic PCs by making it possible to borrow money (up to 4000 Ringgit) against their retirement funds. Several households I visited had taken advantage of this offer.²⁰ In Indonesia, the government’s aggressive promotion of the Internet and ICTs was abruptly terminated during the financial crisis in the late 1990s, but not before several households in my sample that had acquired PCs in the heady days of the mid-1990s, when “Habibie’s kids” were articulating a vision for Indonesia’s own information superhighway²¹—B. J. Habibie was the Minister for Research and Technology (1978–1998).

Thus far, almost all of the households I have visited have had PCs. While this is not indicative of the general population, it is reasonably representative of the urban middle classes in the countries I visited, although Malaysian, Indian, and Indonesian consumers certainly have far fewer PCs. The vast majority of these PCs are purchased from local assemblers, small and micro-enterprises that assemble computers from component parts. In Malaysia, India, and Indonesia, households I visited upgraded existing machines (rather than replacing them, or passing them along to other members of the household or friends, as is quite common in the U.S.). The number

of computers in the home never grows beyond one: this means that computers as an access point, and the Internet as a resource, continue to be consolidated rather than dispersed throughout the house. In Singapore, the most recent PC purchases made in our sample had been exclusively laptops which, while more expensive, were seen as more flexible within the home since they require less domestic infrastructure. Laptops also were a feature of several young singles in Indonesia, who were urban “road-warriors” for NGOs, reinforcing my sense that there are profound inequities in resource distribution in Indonesia—with Jakarta operating as a resource as well as a population center.

One of the functions that an object within the home fulfils is the projection of social or cultural meanings. Yet, desktop PCs do not lend themselves well to the display of cultural and social capital. In fact, desktop PCs are rarely kept in the living room, where many objects of social and cultural capital traditionally are displayed. In nearly all of the households I visited, desktop PCs were kept in bedrooms, studies, and occasionally on covered balconies. In Malaysian households, desktop PCs are found both in children’s bedrooms and in other rooms in the home. In Indian households, by contrast, the computer invariably was in the parents’ bedroom, where mothers act as gatekeepers. In Singapore, desktop computers are kept in public spaces in the home (i.e., home offices and living rooms) if it was a family home, and in the room of the principal user if it was someone living alone. In Indonesian households, there was a strong split between Indonesia-born Chinese households and Muslim households over the placement of computers. In the former, PCs were in more public spaces, in the latter, they were further out of the line of sight. There also was a strong division between Jakarta, where a range of very different households flourished, and other cities in Indonesia that were far more homogenous. In Jakarta, several households had laptops which moved between the office and home, and also within the home, primarily resting in the living room.

The living room is the social hub of many households. Everything goes on here, from socializing with friends to watching television, eating, and just “hanging out.” Bedrooms are places for sleeping, and studying, and now for logging on. So the computer (at least in its desktop form), and the Internet, currently are located outside of the flow of social activity within the home. Sometimes, there is an interesting separation of the television set and the PC—with the television on display, and nestling among a range of culturally loaded home decorations, while the PC sits under a cloth cover in another room. In many ways, the PC and the Internet are competing with the television for attention, for space within the home, and for a place in the domestic routines of daily life. But there appears to be ease-of-use issue. With so many machines running on pirated operating systems, there is a greater level of instability and

machines need constant monitoring and frequent rebooting. Several women I interviewed compared the PC unfavorably to the television, which was seen as a preferable device, requiring little or no maintenance, and delivering an engaging experience and exposure to new things.

Aside from the issue of location and display, there also are issues of usage linked to the place of the PC within domestic spaces. Simply because there is a PC in the home does not mean that everyone is using it. Instead, there is a kind of localized digital divide going on. Men seem to be the principal users of PCs in the home. In several Muslim households in Indonesia, PCs were explicitly “owned” by the male household head and sons. When I asked women why they were not using the PC more, they said that they had a great many competing demands on their time—cleaning, cooking, working full-time—and the computer required too much time and energy. At least one woman told us, “When I come home, I have to look after my daughter, prepare dinner, and take care of things around the house. I don’t have time to baby-sit a computer. Besides, what does it do for me?” It should not be surprising then to learn that, currently, most Internet users in Asia are male. Data from elsewhere around the world also suggest that a digital divide in the domestic sphere cleaves along gender lines.²² It also is clear from my fieldwork that there is a domestic digital divide along age lines—this is particularly true where the primary language of the Internet and ICTs is written English. The language of ICTs and their metaphors of office-work (e.g., the desktop, “in” box) and American culture (e.g., surfing the Web) are geared toward a set of users schooled in English and embedded within late-capitalist systems of meaning. For older Chinese-Malaysians who do not use English, and Indian grandparents who speak English but are not necessarily literate, the Internet and ICTs are inaccessible except when mediated by grandchildren and other third parties. These domestic disenfranchisements along gender and age lines are neglected by macro-level policy discussions that focus on broader digital divides.

Mobile phones, or “hand phones” as they are known in Southeast Asia, seem to be far less technological objects than personal computers. Hand phones were present in every family I visited in Singapore and Malaysia, the majority of those of in India, and a growing number of those in Indonesia. Not only are they proliferating more rapidly than PCs, their population of users tends to be more evenly distributed throughout the age cohorts and across the genders. Indeed, mobile phones perhaps have the distinction of being one of the only ICTs with gender parity among users and consumers. Mobile phones also inhabit a very different space within the home—they are far more mobile, regularly moving across the household’s threshold into the broader world. Even when they are at home, hand phones do not have a fixed location per se, although there do tend to be consistent docking stations conditioned by the

availability of electrical outlets and flat counter surfaces. Unlike computers, mobile phones seem to be dispersing through the home rather than consolidating. In all of the homes with mobile phones I visited, new phones were anticipated for other members of the home, delivering the technology up and down the age-cohorts.

3. Getting Online

Dr. Shria and her husband, Yusaf, live in a three-bedroom house on the edge of KL. Currently, their home is very full, with their three young boys as well as Shria's parents and younger sister. Dr. Shria is an OB/GYN in private practice, and Yusaf works as a geologist for Malaysia's largest mining company. Their children are all in local Malay schools. The couple first bought a PC for their home in 1994. Their first PC was damaged in a lightning strike and their second one was stolen. They are now on their third PC from a third-party assembler. It is a "white box" PC with a Pentium 4 processor and lives upstairs in a large open space where the children watch television and play games. Yusaf says, "We bought it for the boys mostly. And for downloading music. Of course, the children use it to play games, only some of which are actually educational. Fai, my oldest son, likes to go to the WFW Websites—he used to have trading cards but nowadays it is the Web instead." Yusaf also has his own laptop that he purchased in December of 2001. The family uses the Internet to keep up with their friends and family, spread around the world.

As the Internet is consumed in new locations around the world, it seems that the devices used to access it have continued to proliferate, with the traditional PC sharing space with a range of other platforms and protocols. The technological and infrastructural implications here are substantial. They are more pronounced when you consider that the bulk of new Internet users will soon come from non-Western geographies. What is equally substantial, but far less frequently addressed, is that, as access to the Internet proliferates, the experiences that the Internet might support also will shift and change. When we talk about "the Internet," we evoke the image of seamless interconnectivity, collapsing time and distance. However, experiences of the Internet tend to vary, both within and across geographies. Therefore, one could argue that the Internet I experience at my office in Hillsboro, Oregon is not the same as the Internet that Shria and her family regularly use. These are different social and technological objects.

In many Asian countries, the Internet is slower (average dial-up speeds of 26K are considered to be speedy) and the connection almost always is through a phone line. Domestic phone service is provided by state-owned monopolies in India, Malaysia, Singapore, and Indonesia. In all of these markets there is metered local calling and differential hourly rates, so dialing the Internet incurs minute-by-minute costs. The role of the State in providing services, as well as regulating sites and content, sets many of the parameters

for local use. Although there are not that many ISPs, there are a growing number of local portal sites, as well as niche sites for jobs, entertainment, marriage prospects, and horoscopes/fortune-telling. The bulk of Websites with relevant content remain in English, and English (and some of its hybrid forms such as *Singlish*—Singapore English) remains the dominant language of e-mail and chat. One of the complaints I heard repeatedly in Indonesia was that the lack of content in *bahasa* (Indonesia's official language) made the Web very alienating, accessible only to those with a strong background in English.

Although increasingly it is possible to access the Internet over newer mobile phones, getting the Internet home in Asia still mostly relies on buying a computer and bringing it home. In my fieldwork, it seemed that the presence of children in the home drove initial computer purchases. This was especially true when children started secondary school or university. Children were not encouraged to play computer games or surf the Web; instead, they were pushed to consume educational content on CD-ROMs, or practice computing skills (including Microsoft Office and programming languages). In Malaysian households, children were actively discouraged from spending time on the Net, and instead allowed to play computer games (some of them explicitly educational, many not).

In the households I visited in India, Malaysia, Singapore, and Indonesia, computers were perceived as an important component of educational aspirations. In all four countries, many schools and extracurricular learning centers offer computer courses. However, computers are not yet embedded within the curriculum of most primary and secondary schools. They are not part of classroom culture or lesson plans, but having a computer at home still is seen as an advantage for school-age children. In many of the Malaysian households I visited, both Chinese-Malaysian and Malay, people talked about not wanting to be left behind, not being left out, especially for their children. The Hokkien term *Kiasu* that embodies this notion of not wanting to be left behind frequently is used to justify the long hours that school children spend in additional classes. It also is used as a reason for purchasing a PC for your children, though PCs are not considered appropriate for children who are not yet in high school. In Malaysia, even when the children were the primary users of the technology, their mothers continued to act as gatekeepers, regulating the amount of time they spent online and where they went. In India, the computer remains in the parents' bedroom, where the women of the household actively control it. Several women I interviewed, mothers of school-age children, had taken introductory computing classes so that they could better assist their children.

As much as education and learning might have been drivers to PC adoption, they do not remain the ways in which the machines are used and incorporated in daily life within the home. Among the twenty-something generation in Hyderabad, there seemed to be a

growing circle of people downloading music files, “ripping CDs” (making digital copies) and burning discs. A site that offered Hindi and Telugu music, in addition to Western-style pop, had propelled this trend along. This group also was playing computer games, both networked and local, with online snooker being especially popular. In Malaysia, a growing community of senior citizens in Penang and Ipoh play computer games, both networked (scrabble and mahjong) and offline (word games and some computer games) to keep their minds active. In Indonesia, there is a group of women, senior citizens all, who have gotten themselves online to keep up with far-flung relatives, to be politically active, and to feel part of a broader community of women. As the computer becomes settled in the home, finding its place (both logistically and socially), its purpose expands and its functions shift in unexpected ways, but it still is dependent on, and embedded within, the existing infrastructure and ecology of the home.

Indeed, the infrastructure for accessing the Internet from home in India first and foremost means encountering India’s telephone system. Not only is pulse dialing still the norm, but metered local phone tariffs also mean that staying online can be expensive (even non-peak rates are not cheap).²³ Further, the quality of the line is poor, and it is not uncommon to lose connectivity several times in a single session.²⁴ However, it is these very conditions that have driven many Indian consumers to the Internet in the first place. Indeed, in interviews, it became quickly clear that e-mail, in particular, is used principally for keeping in touch with far-flung members of family, especially those outside of India. Some households have augmented their use of e-mail, with instant messaging, and some are starting to experiment with voice-over-IP.²⁵ In at least one household I visited, the primary computer user was a sixty-year-old woman who sends regular updates on family affairs to her oldest son in the United States. She writes out her messages in long-hand each morning, recounting meals and conversations, and sends them in e-mail form later in the day. The ecology of the Indian home includes a strong value on this kind of social chatting.²⁶ It should not be surprising then that instant messaging, chat-rooms, and other forms of real time digital communication (including text messaging on mobile phones) have been hugely popular in India. Chatting, as a way of keeping in touch with family members and friends, also was important in Malaysian and Singaporean households, and was just starting to appear in Indonesian households.²⁷ Chatting online with her sister in Australia was the only reason that Dr. Shria ever used the family computer.

Interestingly, in the homes I visited, the Internet seems little used as an information tool—people I interviewed were not turning to the Web for medical advice or banking. Similarly, e-commerce has been remarkably unsuccessful in the Asian countries I have visited. Despite a strong presence of credit cards and high-speed data

access, two conditions seen as critical to the success of e-commerce, Singapore's residents have not flocked to online retail spaces. When asked, people were quick to point out the popularity of shopping as a recreational and social activity, and the high-density of air-conditioned malls across the island. Spending the weekend in Singapore's malls, window-shopping, the forecourt show, eating, and hanging out with friends and family is a venerable tradition—one with which online shopping has a hard time competing. In India, e-commerce must operate within a cash economy (with an extremely limited adoption of credit cards) with a tradition of barter and a strong desire to touch and feel products before purchasing. Currently, there is an aggressive ad campaign underway in India to promote a local online auction site (Bazee.com); however, it is clear from the nature of the ad campaign that there is a lot of explaining to do about the nature of such transactions. In Indonesia, I heard repeated mirth at the notion of relying on the postal service to successfully deliver anything of value. It is hardly surprising then that none of the households I visited have had successful online transactions, and all of them expressed serious reservations about the security of such transactions and the quality of the goods. It appears that the ways in which existing patterns of consumption operate—as a social activity and as a set of reciprocal relationships (between consumers and merchants)—are deeply entrenched. And the benefits offered (i.e., time saved, convenience, and discreet purchasing) by online shopping are ones without real cultural value.

4. “Hand Phones”

In Indonesia, mobile phones are fast becoming an indispensable item for middle-class urban living. These objects represent a kind of new economy, or simply wealth, so much so that they have become the targets of local gangs. The “Red Axe Gang” is famous right now in Jakarta for targeting drivers stopped at red lights, talking on their mobile phones. They say: “your hand phone, or your windshield,” holding a red-handled axe menacingly to the windshield. The logic here is simple: the most valuable thing in the car is the mobile phone — it yields money on the black market and can be easily resold. It also is faster and cheaper to replace your mobile phone than your windshield.

Mobile phones were present in every family I visited in Singapore and Malaysia, the majority of those of in India, and a growing number of Indonesian households. As such, they represent an important part of the constellation of ICTs within daily life, but mobile phones are a very different sort of ICT than computers. In the first place, they are really more communication than information technologies. In the second place, they are in and of themselves mobile objects, crossing boundaries within and beyond the home with comparative ease. Third, they have ease-of-use on their side—phones have a far more intuitive interface than computers. And last, but by

no means least, they are completely open to commodification and profound personalization. Nowhere is this more in evidence than Asia, where there are a staggering number of homegrown cottage (and larger) industries dedicated to making your mobile phone your own! Consumers can change the look, feel, and sound of their phones, as well as augmenting them with range of charms, amulets, and kitsch from Feng Shui coins to miniature Hello-Kitty cats.

Although almost every Singapore household has a working landline, it is all about mobile phones there. Singapore literally trills to the sound of mobile phones, with more than 4.3 million at last count for a population less than four million. This means that some people have multiple phones. They are owned by teenagers and adults alike. Many services, from flight arrival and departure information, to location-based taxi hailing, are available through SMS on mobile phones. In 2001, Virgin and Singapore Telecom are in a joint deal to provide the Internet on mobile phones in Singapore, Hong Kong, and Korea. And this summer, Nokia and Ericsson both have launched MMS services in Singapore, and are hoping it will drive a new round of phone upgrading. Everyone I interviewed had access to a mobile phone, and many were primary owners of such “hand phones.” Even small children prized mobile phone ownership, and there is a burgeoning industry for up-to-date mobile phone replica toys for children. At least one Singaporean parent complained that his son had more up-to-date “phones” than he did. For the most part, people are using the phones for only two things: calls and SMS although, during the summer of 2002, some were using information services to obtain up-to-the-minute soccer scores at the World Cup.

Mobile phones also have really taken off in Malaysia, with the number of subscribers dramatically increasing over the last four years. Maxis Communication, in partnership with British Telecom, has launched the first mobile Internet services in Malaysia, offering more than one hundred sites in Malaysia and abroad—including ones to order flowers, get sports information, and send and receive email. The Malaysian government also is offering a variety of services via SMS, including a recently launched initiative that allows individuals to determine if their driver’s license has been suspended. The most used services in the summer of 2002 seem to have revolved around up-to-the-minute soccer results from the World Cup. One explanation that I was offered for the rapt attention was that a great deal of money was riding on the outcome of various games. There is a huge drive towards personalization of mobile phones in Malaysia, it seemed as if every mall and hawker stand offered a range of different skins, covers, tones, and button pads, and there are multiple Websites offering downloadable ring tunes and graphics.

Despite the fact that they are banned by most primary and secondary schools, almost all of the teenagers I talked to in Malaysia had their own, distinctly personalized, hand phones. While several had saved up to buy their phones, most had been given to them

by their parents, who regarded the purchases as a kind of security device—allowing them to keep in touch with, and track down, their offspring as they negotiated calendars full to overflowing with school, after-school classes, English language and piano lessons, religious instruction, and sporting activities. Of course, many of these same parents were quick to point out that their children used the phones more to keep in touch with their peers than their parents.

In India, the number of mobile phone subscribers predictably still is small—less than six million out of a population of more than one billion—although in visiting major urban centers, it seems that there must be many more. Billboards, in particular, offer up the promise of easy telecommunications, and it is this promise that makes mobile phones so attractive in India. India is notorious for its telecommunications infrastructure, or lack thereof. It used to take years to get domestic phone service, and most people chose not to, opting instead to use the plethora of public phone booths that dot every Indian population center. Indeed, until quite recently, it was impossible to get international dialing on home phones, and all such calls were made from public phone booths. These booths, always yellow with red or blue lettering, can be found at train stations and along any primary road. They operate solely on cash. Faxing was added to their repertoire in the 1990s. Mobile phones allow consumers a way to by-pass the Indian phone bureaucracy, and take advantage of a far less regulated service industry. A black market for mobile phone handsets has flourished in India, with older handsets mostly smuggled from elsewhere in Asia being resold in India to consumers who can still get service using prepaid phone cards. And it is clear from the numbers that more than three-quarters of India's nearly six million mobile phone subscribers are using unregistered handsets—still the preferred method of obtaining mobile services. The Indian government has moved to drop the taxes on handsets, hoping to boost their tax revenues. Mobile phones, like other ICTs, operate within and around complicated state and market forces, and India clearly is no exception.

Mobile phones also operate within larger social and cultural milieus, and as such often are markers of modernity, progress, and affluence. Interestingly, in Indonesia, hand phones are seamlessly incorporated into the narratives of random violence that abound in Jakarta. There, ownership of mobile phones is taken as an explanation for victimization at the hands of the Red Axe gang. The almost moral tone, or perhaps an object lesson, is that progress is not without its costs. Nonetheless, by the conclusion of 2002, there were an estimated seven million or more mobile subscribers in Indonesia; this number was set to eclipse the number of landlines in 2003. Mobile phones are competing with a preexisting government telecommunications infrastructure that strongly resembles India's PCO system—*Warung Telekomunikasi*, or *wartels*, as they are known colloquially, dot the urban landscape, offering phone service to

those who cannot afford or chose not to have domestic landlines. Unlike their Indian counterparts, for the most part they have not offered additional services and have remained government operated. Their financial model, where you pay by increments of time used, also is reflected in the mobile phone prepaid card system that most consumers favor. One of the more interesting features of Indonesia's nascent phone market is that there appears to be a circulation of secondhand handsets from Jakarta to the peripheries of the nation. Rather than trickling down technology within a household, it is happening across far-flung families, from those working in Jakarta to their relatives in the natal villages. The other distinctive feature of the Indonesian market was repeatedly mentioned in interviews and household visits. SMS is popular, but its adoption has been limited to those who speak English. As more than one person complained to me, "You just can't text in *bahasa* and expect to make any sense, none of us can agree upon a standard set of abbreviations." *Bahasa*, as a language, is vowel-heavy with long words, and the traditional techniques for abbreviating text for SMS relies on removing vowels while preserving the meaning of the word (i.e., "w" for "with," etc). It appears that, sometimes, you just can't make the technology fit the cultural practices.

Nonetheless, the Asian mobile phone market has seen rapid and remarkable growth in the late 1990s and early 2000s, defying analysts' expectations. It is a market that bears more in common with Europe than the United States: there is a single standard (GSM) which means that mobile phones can operate across many geographies; metered local phone calling is still the norm though, in many places, consumers pay only for outgoing calls which means that phones are left switched on all the time; prepaid phone cards are typical; text messaging (SMS) is extremely popular; and phones in the hands are common across most age groups. It also is the case in many Asian countries, Singapore and Malaysia included, that the number of mobile phones in circulation exceeds the number of domestic landlines in service. In fact, in Singapore, the number of mobile phones even exceeds the entire population. Any account of ICTs in Asia cannot ignore the ways in which mobile phones are simultaneously being incorporated into existing social and cultural practices, while helping to create new practices and behaviors.

5. Public Computing

In the basement of Burgis Junction, one of Singapore's many enclosed malls, there is a cyber-arcade. "Cyberbyte: The One-Click e-Entertainment Center." There is a sign on a notice board to the far left of the entrance. It reminds patrons that no one under the age of eighteen is in here during school hours, or during times when school is in session. It is dark, cavernous, high-tech aesthetic, with exposed pipes and gray paint, halogen lights, Formica floor. The simulators are against the front wall. Arcade games come next, then LAN games in two long rows of computer terminals facing

each other. There are over a hundred gaming stations, offering LAN and video games. In addition to all gaming facilities, there also are five Internet surfing booths equipped with a sliding keyboard tray, flat panel screen, microphone on a stand, keyboard, and Web cam, plus speakers built into the four walls. The sign in the booth reads: "Notice 1. No pornographic/illegal Websites. 2. No Internet gambling. Offenders will be referred to the police. The management." At 3:30 p.m. on Sunday, these booths are empty, but young boys playing "CounterStrike Version 2.1" fill the rest of Cyberbyte. The noise is deafening.

In Singapore, over the last couple of years, some cyber cafes have been transformed into enhanced game arcades, offering networked gaming.²⁸ The logic here is simple. As one young man in Singapore put it, "Why play at home, by myself, with my parent complaining about the noise, when I can go and hang out with all of my friends?" Cyber-arcades are mostly located in shopping malls, and cater to teenage boys and young men; their sisters and girlfriends are window-shopping in the same malls. Most of the gamers have PCs at home, and own copies of the games they are playing, but part of the experience of gaming also is a social one, and cyber-arcades support that sociality better than a PC at home in your parents' bedroom, or the living room. Cyber arcades also are an important part of the Internet landscape in Malaysia. Interestingly, there also is a strong base of cyber-arcades in Penang, primarily in the local malls. In at least one local mall, there are three cyber cafes, only one of which is connected to the Internet. The other two, clearly cyber-arcades, offer LAN gaming; and are both doing a roaring trade, filled with young boys playing Counter Strike and other games.²⁹ Unlike their Singaporean counterparts, however, cyber-arcades in Malaysia are seen as sites of danger, not unlike the reputations pool halls acquired in American culture in the 1950s. These arcades are seen as magnets for the wrong kinds of young men and the "wrong" kinds of behaviors. More than one parent told me that they banned their children from going to cyber-arcades, although they would let them play games at home after they had done their homework.

Public computer access points have not been without their share of controversy in India, too; and currently there is a move in Mumbai to compel owners of such establishments to strictly monitor and regulate access to pornographic sites from their cafes, especially among minors.³⁰ From newspaper accounts, current legislative debates, and our interviews it appears that, in India, adult content is accessed on the Internet not at home, but in cyber cafes, inverting some of the persistent logics about public and private spaces. But this makes a certain kind of sense when one remembers that PCs in the home always are in parents' bedrooms, were purchased explicitly for educational purposes, and now serve the function of communicating with far-flung relatives and family friends. One of the consequences of this particular use of cyber cafes is that many of these sites become

gendered male. Clearly, these public computing sites operate within a broader landscape of spaces of sociality including malls, public squares, schoolyards, coffee shops, and private clubs, and are bound by similar social rules and regulations.

Nowhere was this more apparent to me than in Indonesia, where the local *warnets* (*warung Internet* or cyber cafes) are very often, though not always, the exclusive purview of men. Although it is estimated that more than half of Internet access in Indonesia takes place in *warnets*. Among my interviews, I could find only one young woman who regularly visited used them—there was one on her way home from work where she regularly checked her e-mail. The young men, in their teens and twenties, who do frequent *warnets* spend their time playing online and offline games, surfing the Web, and consuming adult content—one of the few things on the Web consistently available in *bahasa*. Where *warnets* were a site of serious political mobilization of students and the middle classes during the unrest of the late 1990s, it appears that they now have become sites of entertainment and leisure. Interesting, like other places within South and Southeast Asia, it often is the case that those in *warnets* also have PCs at home. In Indonesia, I was told, the appeal of *warnets* is twofold—access was cheaper and you hang out with a lot of friends. An added bonus sometimes was air-conditioning and more reliable electricity.

In all of the countries I have visited for this project, the nation-state has had a part in promoting public computing as a means of accessing government services. In Hyderabad, taxi drivers proudly told us that they had obtained their state driver's licenses from e-kiosks in the city's governmental centers, while elsewhere in India, people use government Web-services to obtain caste certification forms. In Singapore, it is possible to pay city and state taxes through "smart" ATM machines in many banking centers. In Indonesia, as had been the case with the early development of television,³¹ there was a sense that computers were a resource that should be in the public domain first, and consumed privately later. These public computing sites are part of larger state projects centered around e-government and modernization, and the state thus has an important role in establishing trajectories of technology development and acceptance.

Clearly, there is an interesting and complicated history of public computing in Asia, and it is one that bears some scrutiny. The conventional wisdom in the United States always has been that public computing—that is the range of computing/Internet access points outside of the home which includes cyber cafes and Web kiosks—will only flourish while there is not a strong domestic computing base. However, it is clear from my experiences in Europe and Asia that it is possible for domestic and public computing to coexist. In no small part, such coexistence is possible because there have been two different sets of consumers utilizing the resources,

and it was possible to assume that those who had PCs at home eschew public computing sites. However, the recent successes of both the EasyEverything chain in the UK and the “PC-Bongs” (gaming rooms) in Korea suggest that, as Internet-supported experiences continue to proliferate, the platforms on which those experiences take place also are expanding. As a consumer, one might have a PC at home, but still wish to use computing resources in other locations. This is clearly the case in South and Southeast Asia, where those who do not have PCs at home share public computing spaces with those who do. These spaces, sites of ICT consumption, support a range of different sorts of social activities and cultural practices.

Cultural Accounts and Ethnographic Perspectives

The shop front is pink, loud pink, trimmed with darker pink stripes and festooned with red lanterns and flags. It sits on the corner of two busy streets in Penang’s bustling Chinatown. Inside, you can find almost anything for your home—furniture, statues, clocks, lamps, rugs, Feng Shui charms, ancestral altars, and many things red and gold. Tucked away in the back corner of the store, there is a section that sells funerary goods—paper money, paper gold nuggets, paper clothes, paper cars, paper cigarettes, paper beer, and a range of paper household items from televisions to fans. All of these paper objects are burnt during traditional Chinese funerals to ensure that the deceased are appropriately provisioned for the nether world. It is in this corner of the store that my friends and I find an unexpected treasure. Hanging from the ceiling, suspended on a hook along with a paper motorcycle, there is a bundle of paper mobile phones—the big old brick kind. Further investigation yields a paper laptop and two small mobile phones in boxed sets replete with paper phone chargers, paper Rolex watches, and paper lipstick. In other funerary goods stores in Penang, Ipoh, and KL, I find more paper technology—a desktop PC, “Nokia” mobile phones, and prepaid phone cards. I buy them all, but do not burn them.

This story of Penang’s paper ICTs represent one sort of cultural account of the ways in which new technologies are embedded in daily life, and remind us of the ways in which social practices around ICTs extend beyond the physical confines of the home. It is not simply just domestic ecologies that are important, but also the ways in which new technologies are integrated into larger symbolic systems and patterns of social practice. It has been my contention throughout this paper that the ICTs do not exist apart from social interactions and, as such, ethnographic methods and perspectives are invaluable for understanding the ways in which Asian cultural and social practices are shaping how ICTs are deployed and consumed.

In this paper, I have drawn on my own recent ethnographic research in South and Southeast Asia to locate ICTs at their sites of consumption. By locating ICTs at the sites of their consumption, particularly when those sites are non-Western, I am implicitly challenging some of the current framings of debates around ICTs. I argue

that, through this kind of cultural account—by taking the home as its starting point—one gains a perspective on technology use and on ICTs that is frequently missing from the debates around globalization and modernity. The socially embedded nature of the ICTs has consequences for the shape of future research, new product development, service provision, and even public policy. ICTS are more than technology; rather, they are an amazing constellation of devices that help strengthen and reinvent families, that create new idioms and icons of identity, and that allow new places and spaces to be Asian.

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- 1 These ethnographic moments are taken from my field notes. This paper started as a conversation with Don Slater, and I am grateful for his interest and encouragement. The text was fleshed out in discussions with Nina Wakeford, Malene Skaeved, Michael O'Higgins, Joseph Kaye, Katrina Jungnickel, Eunyun Park, Debashis Chaudhuri, David Ashley Brown, Greg Welch, Christine Riley, David Tennenhouse, and my colleagues in Peoples and Practices Research; and I thank them all. My paper has benefited from the close readings of Adam Yuet Chau, Paul Silverstein, Ken Anderson, and Diane Bell; and I am grateful for their suggestions and patience. I also wish to thank the various organizations within Intel that continue to support this kind of research, and have found value in its results.
- 2 R. Silverstone and E. Hirsch, *Consuming Technologies: Media and Information in Domestic Spaces* (London: Routledge, 1992), 1.
- 3 As discussed in *ibid.*, J. Sefton-Green, *Digital Divisions: Youth Culture in the Age of Multimedia* (London: UCL Press, 1998); D. Miller and D. Slater, *The Internet: An Ethnographic Approach* (New York: New York University Press, 2000); and *Wireless World*, B.R. Brown, R. Harper, and N. Green, eds. (London: Springer Verlag, 2001).
- 4 *The New Rich in Asia: Mobile Phones, McDonald's and Middle-Class Revolution*, R. Robison and D.S.G. Goodman, eds. (London: Routledge, 1996).
- 5 L. Nader, "Up the Anthropologist— Perspectives Gained from Studying Up" in *Reinventing Anthropology*, D. Hymes, ed. (New York: Pantheon Press, 1969).
- 6 M.M. Overbey and K.M. Dudley, *Anthropology and Middle-Class Working Families* (Arlington, VA: American Anthropological Association, 2000), 1.
- 7 As discussed in *Consuming Modernity: Public Culture in a South Asian World*, Carol Breckenridge, ed. (Minneapolis: University of Minnesota Press, 1995); *The New Rich in Asia: Mobile Phones, McDonald's, and Middle-Class Revolution*, R. Robison and D.S.G. Goodman, eds. (London: Routledge, 1996); *Culture and Privilege in Capitalist Asia*, M. Pinches, ed. (London: Routledge, 1999); J. Farrer, *Opening Up: Youth Sex Culture and Market Reform in Shanghai* (Chicago: University of Chicago Press, 2002); and J. Farquahar, *Appetites: Food and Sex in Post-Socialist China* (Durham, NC: Duke University Press, 2002).
- 8 As discussed in P. Rengier, *Singapore: City-State in South-East Asia* (Honolulu: University of Hawaii Press, 1987); *Urban Spaces in Contemporary China*, D.R. Davis, Kraus, B. Naughton, and E. Perry, eds. (Cambridge: Cambridge University Press, 1995); B. Yeoh and L. Kong, *Portraits of Places: History, Community, and Identity in Singapore* (Singapore: Times Editions, 1995); *Emerging World Cities in Pacific Asia*, F. Lo and Y. Yeyng, eds. (New York: United Nations University Press, 1999); and *Five Cities: Modeling Asian Urban Population-Environment Dynamics*, G.D. Ness and M. Low, eds. (Kuala Lumpur: Oxford University Press, 2000).
- 9 Although there have been attempts in popular literature [i.e., D. Sheff, *China Dawn: The Story of a Technology and Business Revolution* (New York: Harper Business, 2002) and Stan Stalnakar, *Hub Culture* (New York: Wiley, 2002)].

- 10 As discussed in *International Satellite Broadcasting in South Asia: Political, Economic, and Cultural Implications*, S. Melkote, P. Shields, and B. Agrawal, eds. (Lanham, MD: University Press of America, 1998) and D. Sheff, *China Dawn: The Story of a Technology and Business Revolution*, S. Melkote, P. Shields, and B. Agrawal, eds. (New York: Harper Business, 2002).
- 11 As discussed in J. Hong, *The Internationalization of Television in China: The Evolution of Ideology, Society, and Media Since the Reform* (New Haven, CT: Praeger, 1998); J. Lull, *Inside Family Viewing: Ethnographic Research on Television's Audiences in China* (London: Routledge, 1990); G. Mehta, *Karma Cola: Marketing the Mystic East* (New York: Fawcett Columbine, 1990); P. Manuel, *Cassette Culture: Popular Music and Technology in North India* (Chicago: University of Chicago Press, 1993); *Consuming Modernity: Public Culture in a South Asian World*, Carol Breckenridge, ed. (Minneapolis: University of Minnesota Press, 1995); *The Secret Politics of Our Desires: Innocence, Culpability, and Indian Popular Culture*, A. Nandy, ed. (London: Zed Books, 1998); P.G.L. Chew and A. Kramer-Dahl, *Reading Culture: Textual Practices in Singapore* (Singapore: Times Academic Press, 1999); P. Kitley, *Television, Nation, and Culture in Indonesia* (Athens, OH: Ohio University Center for International Studies, 2000); and P. Mankekar, *Screening Culture, Viewing Politics: An Ethnography of Television, Womanhood, and Nation in Post-Colonial India* (Durham, NC: Duke University Press, 2000).
- 12 I work at Intel—a leading suppliers of semiconductors. I am a researcher, an anthropologist, in Peoples and Practices Research, an interdisciplinary team of researchers and designers that is part of Intel's Corporate Technology Group. Since it was established in 1995, Peoples and Practices Research has been charged with the task of understanding people and their daily practices, with the objective of finding new users and new uses for technology. We spend time in domestic and urban spaces, hanging out with people as they go about their daily lives in the United States, Western Europe, Latin American, and Asia. We attempt to translate insights about peoples' behavior into product concepts, technology innovations, and strategic long-range planning. In all of our work, I attempt to understand peoples' experiences holistically rather than just in relation to, and interactions with, technology. See T. Salvador, G. Bell, and K. Anderson, "Design Ethnography," *Design Management Journal* 10:4 (1999): 9–12; G. Bell, "Looking Across the Atlantic: Using Ethnographic Methods to Make Sense of Europe," *Intel Technical Journal* online at: http://developer.intel.com/technology/itj/q32001/articles/art_1.htm; G. Bell and Joseph Kaye, "Designing Technology for Domestic Spaces: A Kitchen Manifesto," *Gastronomica* 2 (2002): 46–62.
- 13 G. Marcus, "Ethnography in/of the World System: The Emergence of Multi-Sited Ethnography," *Annual Review of Anthropology* 24 (1995): 117.
- 14 Households have been compensated for their participation, and have been guaranteed privacy. Thus, throughout this paper material drawn from interviews and household visits is disguised through pseudonyms.
- 15 As discussed in T. Salvador, G. Bell, and K. Anderson, "Design Ethnography"; G. Bell, "Looking Across the Atlantic: Using Ethnographic Methods to Make Sense of Europe"; and G. Bell and Joseph Kaye, "Designing Technology for Domestic Spaces: A Kitchen Manifesto." 2: 46–62.
- 16 I am grateful for the assistance of Debashis Chaudhuri (Oregon State University) and Adam Yuet Chau (Skidmore College) throughout this project.
- 17 As discussed in G. Bell, *Making Sense of Museums: The Museum as Cultural Ecology* and G. Bell and Joseph Kaye, "Designing Technology for Domestic Spaces: A Kitchen Manifesto."
- 18 G. Murdock, P. Hartmann, and P. Gray, "Contextualizing Home Computing: Resources and Practices" in *Consuming Technologies: Media and Information in Domestic Spaces*, R. Silverstone and E. Hirsch, eds. (London: Routledge, 1992), 146.
- 19 In China, it appears from earlier research I conducted that computers, themselves, might operate as a kind of status symbol, without or without a connection to the Internet.
- 20 This system recently has come under fire for financial mismanagement, and probably will be revoked.
- 21 K. Sen and D.T. Hill, *Media, Culture, and Politics in Indonesia* (Australia: Oxford University Press, 2000), 195.
- 22 As discussed in C. Cockburn, "The Circuit of Technology: Gender, Identity, and Power" in *Consuming Technologies: Media and Information in Domestic Spaces*, R. Silverstone and E. Hirsch, eds. (London: Routledge, 1992); S. Livingstone, "The Meaning of Domestic Technologies: A Personal Construct Analysis of Familial Gender Relations" in *Consuming Technologies: Media and Information in Domestic Spaces*, R. Silverstone and E. Hirsch, eds. (London: Routledge, 1992); Leslie Haddon, "Explaining ICT Consumption: The Case of the Home Computer" in *Consuming Technologies: Media and Information in Domestic Spaces*, R. Silverstone and E. Hirsch, eds. (London: Routledge, 1992); and S. Hawthorne, *Wild Politics* (Melbourne: Spinifex Press, 2002).
- 23 On April 1, 2002, the Indian government is set to again drastically reduce taxes on phone charges, following another significant reduction in 2001. As a result, long distance calling costs should be reduced by upwards of twenty-five percent.
- 24 Fiber optic cables are being laid by several companies in major Indian cities, including Hyderabad, and it is hoped that broadband will offer better and more reliable Internet access, although currently its high price is a major barrier.

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- 25 Miller and Slater note a similar use of the Internet among members of the Trinidadian diaspora. See D. Miller and D. Slater, *The Internet: An Ethnographic Approach* (New York: New York University Press, 2000). In India, family members also are exchanging digital images. Although there are almost no digital cameras available in India due to their prohibitive cost, most photo processing stores will scan selected photos onto disc, or provide digital development, allowing Indian families to participate in the reciprocal exchange of family snapshots.
- 26 There are words in most Indian languages for this. In Hindi, the word is *gapp* is used to describe a certain kind of social event, or social interaction, where everyone just chats. In Telugu, it is *gappa*, which literally means storytelling, or story. In Bengali, the word is *adda*, which translates directly as a place where people congregate, but it is used to describe chitchat among friends.
- 27 Megawati's government recently imposed a hefty tax on domestic phone charges, and it is hard to calculate what impact this might have on these nascent chatting practices.
- 28 There are still other "cyber cafes" used for checking e-mail, but these are much smaller and off the beaten track. There also is a whole culture of smart diversions in the malls, including cyber-game arcades and photo and video booths. The most recent of these is called the "Video Club" (www.idi.com.uk) which, for ten Singapore dollars, allows you to produce a three-minute video which is burned on a CD disc that can be played on the computer and the DVD/VTR player. This machine is the latest version of the older Japanese photo-booth mall installations, where consumers paid for instant photos on stickers or strips.
- 29 There is an interesting tension here between the notion that a personal computer in Asia only has meaning when connected up to the Internet and the fact that there are cyber cafes that are not connected to the Internet. I think that, in part, the answer lies in a shifting definition of the "Internet," where it is not so much about what is connected, but that connectivity exists. So in the Penang cyber arcades, connectivity between machines at the site is a form of the Internet, albeit an unexpected one.
- 30 The Mumbai High Court has convened a special committee to make recommendations regarding access to Internet pornography at cyber cafes around Maharashtra. "The six-member committee wants the High Court to issue a binding 'direction' that would make all cafes in the State of Maharashtra (of which Mumbai is the capital) responsible for requiring customers to show photo-identity cards, recording their personal details, maintaining logs of all the sites the users have visited, and restricting minors to machines that do not have cubicles." (visit: <http://www.wired.com/news/politics/0,1283,50615,00.html>).
- 31 P. Kitley, *Television, Nation, and Culture in Indonesia* (Athens, OH: Ohio University Center for International Studies, 2000).