

Juggling Digital Devices at Work and Home in Silicon Valley

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Background

This paper complements the work of others here before me. While they are looking at community in cyberspace, I am interested in the impact of information technologies on life on this side of the screen. Hired in 1991 to be an all round generalist anthropologist, add expertise in the anthropology of science and technology, and to participate in the Silicon Valley Cultures Project. At that time it was an indistinct vision of studying the distinguishing features of the region—its dizzying array of ethnic and cultural diversity, born of a century of immigration from Portuguese farmers to Taiwanese engineers—and the global cache of being the premier and prototypical technological territory. As time past I formed a collaborative relationship with several of my colleagues in the anthropology department and in the community. Chuck Darrah and I formed the core of this alliance. We agreed to coordinate our classroom assignments to produce real research, not just another round of classroom exercises. He would use his ethnographic methods course to elicit assignments in which students would investigate particular phenomenon—attitudes toward technology, school to work training, workspace changes. His economic anthropology course would investigate consumer decision-making. I would ask my psychological anthropology students to explore the depths of intercultural contact at home, work and in public in the region—eliciting stories of interaction that formed an ongoing archive. We also continued our former interests—Chuck with work organization, James Freeman with the Vietnamese community while I examined the connections with Greater China—including a year long sojourn to Hong Kong in 1994. Most importantly for today's paper, we cultivated long-term relationships with non-profit such as the The Tech Museum of Innovation in San Jose and the Institute for the Future in Menlo Park. The results of the collaboration with the Institute for the Future ultimately drove the creation of our research centerpiece, *Work Identity and Community in Silicon Valley*. It is the collaboration with IFTF that I am exploring here today.

IFTF Projects: Infomated and Communicated

IFTF, the Institute for the Future, is a non-profit organization that embraces clients in industry, government and education. The develop long-term projects, such as the Outlook Project in which they examine the marketplace for group-oriented electronic technologies and services. They also take on smaller, more focused projects for particular clients. We had shared interests that spurred our interaction with them. Paul Saffo and Andrea Saveri were particularly sympathetic to the ethnographic approach. They recognized that cultural rules, meaning, and enaction of mental models were best captured by the department of anthropological inquiry. At the same time, the Institute needed to speak the quantitative language their clients comprehend. They have learned to bridge that gap using quantitative data to identify interesting phenomena and general patterns and ethnography to find out what those patterns mean in daily life. In the last two years we cemented our relationship

with them by becoming research associates, creating an ethnographic component to two of their projects—called here the infomated household and communicated workspace projects.

The Infomated household project began when IFTF noticed a peculiar feature on one of their surveys. People who had five or more consumer information devices (ranging from pagers to computers) had a distinct profile from those who had less. They called this mysterious group infomateds. They conducted a large scale Harris and Associates survey whose questions complemented the ethnographic efforts of our team. Darrah, myself, and five students developed an ethnographic interview survey that sought to capture the relationships and values that underpinned the infomateds use of the information technologies. We ran 30 interviews on 15 selected households, constructing natural histories of their most precious, least precious and most contested digital devices. This interviews revealed so much data they ultimately drove the analysis of the quantitative surveys—revealing some intriguing patterns. The second project followed closely on the first as our team explored these digital device users in their workspaces in Fortune 1000 companies. In this project the ultimate focus was on the devices and again, in oblique ethnographic fashion, we explored their link to technology by examining how relationships were enacted using these devices. In both cases we employed the ethnographic wisdom that asking for values directly rarely works, instead approaching the topic indirectly by getting thick descriptions, rule and stories. The lessons we learned by examining devices in their “natural settings,” that is, households and workspaces revealed a fascinating juggling act. I will outline some of the values and behaviors we detected now.

Technologies Do Not Die

We learned that devices do not die but are recycled and bundled. People creatively reinvented systems of devices to compensate for broken ones or ones who uses they did not fully understand. For example, one family had a series of VCRs in different states of decay, some used for recording programs, some sports, others for viewing, and the one in the garage for Sundays. An elderly chunky videocam was recycled by the son into a mobile camera by taping it to his helmet for motorcycle rides. Older computers and telephone answering systems were recycled to relatives and friends they felt should be accessible or computer literate. People bought new devices to supplement the decaying state of their old ones. I myself have engaged in this behavior when I discovered the answering machine on our Hong Kong fax did not work in America, so I naturally bought an answering machine to supplement it. This implies that the current unit of analysis in human technology interface—a single device—is misleading. People do not replace one device with another newer technology, but instead weave devices in and out of systems that may embrace a dozen devices.

Computers are Imbued with Value

One device stood out in its meaning to the household and the workspace. However it was used functionally—for work, games or communication—the computer was seen as a device apart. War stories of software installation, peripheral incompatibility and just plain cussedness were juxtaposed with dreams of social mobility—hinged on computer use—that highlighted the notion that computers were valued beyond their mere function. We began to see computer literacy was like a new Latin. Learning Latin was a 19th c. exercise that held moral overtones, marking the learned from the hoi palloi. For our infomateds, the work one could do, the discipline necessary to do it and the orderliness that computer use promised was of value in itself. This was evident in the pride of the middle-class respondents who saw the computer as the minimal marker of their class. Older women, young child, a socially mobile blue-color worker all referred to themselves as if socially redeemed since they had become computer literate—even if it only meant wordprocessing and games.

People Develop Roles

Within households and workplaces people develop roles they perform—We have discovered theater is an important part of technological use—technosavants and techno-idiots. Often, but not necessarily, these are divided along gender lines. In our sample, husbands and male managers mock their wives and admins. Technosavants talk the language of devices, reeling off information like a technical writer, but ironically, they may know less about the actual use and capabilities than the “techno-idiots.” The occupants of those roles, again, often women, scorn the techno-babble of the technosavants. As one woman said, when the men withdraw to talk computers she would rather go back for another helping of dessert. However, it is the women and admins who understand the system of devices that function in their work or house. In interviews it is they who know what software is working and who can or cannot receive E-mail. Nonetheless, they profess their ignorance and allow the technosavants to display their verbal prowess to the public.

Thou Shalt Have Access

One pattern emerged with crystal clarity—“thou shalt have access” This social contact is reinforced by familial gift-giving, managerial decisions and the construction of networks of devices. However, this does not mean that everyone should have equal access. It means I want access to you but I want to minimize your access to me. This may mean a subordinate is required to wear a pager, while the boss's cell phone remains off until he wants to place a call. The absence of an answering machine/voicemail or call waiting can send an infomated into a fury—How dare that person not be connected! Yet clearly people have strategies of resisting the constant interruptions that digital devices permit. Forgetting to turn on pagers, monitoring voicemail, selective deletion of E-mail are a few of the many tools family members and workers use to create an envelope of privacy and the appearance of control. Power and status underpin these strategies.

Devices can be alternately used to pull people in—by sending videotapes to relatives or using the laser disk for karaoke—or allow them to fragment into ever more distant orbits. More than one household commented that the interview was the only time the whole family had come together in weeks. Underneath this centripetal-centrifugal family dynamic was an interesting revelation. Clearly cultural differences were important—Vietnamese, Latino and European informants all had distinctly different relations with each other and their devices, more centripetal. In the centrifugal households technologies were not causing family dysfunction, but they were enabling them by allowing the family members to move ever outward in orbit while tenuously preserving the connections. Often our interview engendered a moral crisis as people realized the extent to which their family connections were ephemeral.

From Masters of the Universe to Damage Control

Ironically, in a region renowned for its entrepreneurial risk taking, it became clear that both at home and at work, risk is to be avoided at all costs. At home, people get computers to allow them to run the red queen's race and maintain their job and class status, not to boldly venture into new territory. At work devices are woven into a safety net that will allow just in time communications to save them from having had to plan in advance. In one story, important documents are driven, faxed, E-mailed and driven again to save one manager from the shame of having forgotten the documents that were the basis of his out-of-town meeting. The story was hailed as a marvel of the efficiency of the brave new technological world, but it also implies that the technology was more damage control than world domination. Not early adopters, the users of these devices were more interested in reducing the impact of risk, than enabling themselves to be pioneers. Instead of fueling

visionary behavior, the digital devices allow people to live even more in the moment hoping that the devices will allow them to salvage any dangerous situation—just in time.

Work-Home Blurring

One of the most striking themes that emerged from both studies is the degree to which digital devices blurred the distinction between work and home. We were struck by how much each device allowed home to be penetrated by work. The issues of work home balance are obvious for folks such as telecommuters, but pagers, cell phones, computers, and even VCRs allow work to enter the households of even working class people. The segmentist nature of industrial work—work is at work, family is at home—is a hallmark of the past 80 years. While autonomous professionals allowed some blurring, unions and manager alike exerted control over workers so that home issues would not intrude. The technologies in the workplace that have eroded the necessity for secretaries, and other support personnel mean that more work must be done by fewer people. Those people take work home. The trap is that once someone breaks the work-home barrier, more are pulled in. Note the following quotation:

At the time, there was a lot of hard copy paperwork at my job. I thought I would be real convenient to have a fax modem. But shortly after I got this newest computer work went through a major change trying to eliminate paperwork. Now most other things I need are just computer files. I can carry those back and forth between work and home. (Pause) I also hoped that the computer would save me time, and get me ahead at work. I mean, I don't work at home because it is so great, I would rather do other things, But I saw, or hoped that working at home would allow me to get even more done and give me an advantage at work. And then I thought that if I need an occasional afternoon off, it would be OK because I would be ahead. Of course, that was naive. Everybody works at home and now it is a standard. Working at home doesn't let me get ahead, it stops me from falling behind.

So people retrieve faxes from Europe at 5 in the morning, and call Asia at midnight and E-mail their families at lunch. Admins retrieve voicemail at 6 to get a head start on the work that is now constantly overwhelming. This phenomena was so powerful we changed the research design of our major project to explore how people from a cross-section of Silicon Valley industries and positions manage this boundary maintenance. For one thing was clear, individuals were expected to police this boundary themselves, the workplace required the work to be done—how far people would be willing to go would be up to them. The information technologies we were investigating make this penetration possible, the social contract that makes it happen is still under investigation.

Conclusion

Seminal work, such as the work done by anthropologists at Xerox Parc and Apple has made it clear that ethnographers can contribute to the understanding of technologically mediated relationships. In our two IFTF projects using guerrilla ethnography we were able to see that new values, social relationships and economies were emerging on this side of the cybernetic divide.