

What Can I Do With An Anthropology Degree?

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Coming Of Age In Palo Alto By KATIE HAFNER

IN 1981, while doing postdoctoral field work in cultural anthropology, Bonnie A. Nardi lived with villagers in Western Samoa, trying to understand the cultural reasons that people there have an average of eight children.

Today Dr. Nardi works at AT&T Labs West in Menlo Park, Calif., and has no regrets. She left academia in 1984 and is considered a pioneer among anthropologists who are employed by high-tech companies to examine consumers' behavior in their homes and offices.

"Usually people say, 'What is an anthropologist doing here?' " Dr. Nardi said. "But when I explain that I study how people use technology in order to get new ideas for products and services, it instantly makes sense."

No longer do companies study consumers' psyches only by asking people what they think about technology and how they use it. Now they conduct observational research, dispatching anthropologists to employ their ethnographic skills by interviewing, watching and videotaping consumers in their natural habitats. In the past several years, companies like Apple, Motorola, Xerox and Intel, as well as telecommunications and cable companies, have brought anthropologists into the corporate fold. The goal is to apply what the anthropologists learn to new product concepts. "It's the extreme form of understanding the customer," Dr. Nardi said.

Half of all anthropologists with doctorates are going to work outside universities, said Susan Squires, president-elect of the National Association for the Practice of Anthropology, which represents anthropologists outside academia. High competitive pressure and short product cycles mean that corporate field work is usually much briefer than academic research and fewer people are studied. While the work might not be considered reliable enough to be published in a traditional anthropology journal, companies can use the results to help them make marketing and product-design decisions.

Observational research isn't new for American industry. It can be traced to the 1930's and 1940's, when social scientists began examining productivity during the Depression and World War II, said Marietta Baba, chairwoman of the anthropology department at Wayne State University in Detroit. "They left industry completely in the 60's and 70's," Dr. Baba said. "They came back in the 80's and there has been a slow, steady increase since then." The rise in corporate employment for anthropologists has roughly paralleled a drop in academic opportunities. Hallmark Cards has an anthropologist. The automotive industry employs at least a dozen, and so does Andersen Consulting.

But it is in the high-tech arena, with intense pressure and high rate of product failures, that studying consumers' habits at very close range is currently most popular, Dr. Squires said.

"We go out into the consumer space, into people's homes -- we go to where the people are," said Tony Salvador, an experimental psychologist at Intel, where he is called a design ethnographer. "If we're interested in their homes, we go there. If we're interested in what they do on vacation, we go on vacation with them."

Sometimes an ethnographic inquiry will lead to new ways to use an existing technology or will generate new technologies. It was a 1996 study of pager use in rural China, where there is a scarcity of phones, that prompted Motorola to start thinking seriously about two-way paging outside urban markets, said Jean Canavan, an anthropologist who is the manager of culture and technology initiatives at Motorola.

"The context is really critical," Ms. Canavan said. "If we want to develop technologies that really fit into the way people live their day-to-day lives, then we have to understand how people really live."

Many anthropologists work with a concept called embodied knowledge -- tacit, nonscientific knowledge -- and look for ways to incorporate such information into product design. Embodied knowledge is "basically the intelligence in your muscles," Dr. Nardi said.

"You aren't born knowing how to ride a bicycle," Dr. Baba said. "You don't learn by reading a book. With experience, your body comes to 'know' how to ride a bike."

Paying attention to embodied knowledge helped Matsushita build a better bread maker in 1987. The company sent a team of engineers to be apprenticed for several months to a master bread chef at the Osaka International Hotel in Japan. The magic ingredient turned out to be a special maneuver the chef executed with his hand while kneading the dough, so the engineers figured out how to mimic the movement with the machine.

"Anthropologists are trained in those patient, detailed ways of watching for hundreds of hours and taking everything down in minute detail, which is where the knowledge is -- in the tiny details," Dr. Baba said. An understanding of movement skills has helped in the design of things like the computer mouse, joystick and touch screen. The mouse, for instance, lets the hand mimic the way the eyes scan a computer screen.

The social aspects of technology particularly interest anthropologists like the ones in Dr. Salvador's group at Intel. Three and a half years ago, the group was set up when the company began considering other consumer products after releasing its Pentium processor. "It was selling really well into homes, and people were saying we have to build more things for the home," he said. "We thought maybe we should understand more about the home."

The group members embarked on a study of 10 families with young children. They visited each family for an evening, eating dinner with the family and analyzing the organization of the home and the family's daily routine.

Dr. Salvador's group found that the kitchen and family room were the most important rooms in the house. "Very rarely are people alone in those spaces," he said. "Social relationships are very important." Dr. Salvador's findings may not seem like much of an epiphany, but his work has helped lead Intel to look beyond the notion of a PC as a device generally used by someone seated at a desk alone in a room and to understand the importance of whole families using and sharing computing devices.

Anne McClard and Ken Anderson, anthropologists who are married to each other, do similar observational research at Media One, a cable provider that AT&T recently agreed to purchase. Ms. McClard and Mr. Anderson are part of Media One's Broadband Innovation Group. Their charge is to find new users and new uses for the company's services and, as Ms. McClard put it, "to make broadband living a reality."

To study Internet usage patterns, companies also install tracking systems on subjects' computers. But those kinds of studies are a poor substitute for the serendipitous twists and turns of actual interviews, anthropologists say.

Dr. Nardi said it was also important to couple interviews with observations to pick up on the knowledge and behavior people exhibit but do not think to mention. In her book "Information Ecologies: Using Technology With Heart (M.I.T. Press, 1999), Dr. Nardi describes a study she did of a broadcast video and audio system in a hospital. She noticed that the surgical staff told jokes during routine parts of an operation. "This became an issue when the multimedia system began to broadcast audio to remote parts of the hospital," she said in an interview. The jokes and banter, she said, relieved tension during lengthy operations. "But no one would ever have said in an interview, 'We tell jokes during surgery,' " she noted.

Dr. Nardi and her colleagues recommended that the hospital add a feature to the system so the surgeons would know whether the audio component was turned on.

Ms. McClard and Mr. Anderson of Media One have had similar experiences. Last summer, they conducted a study called Always On, in which they observed families with cable modem connections, which allow computers to have a constant connection to the Internet at very high speeds, in an effort to understand what it is like to have such a link to the Internet in one's home.

The two anthropologists found that people with constant connections were often unaware of changes in their behavior. For instance, the people would often walk over to the computer to perform tasks like retrieving E-mail even if they were busy with tasks somewhere else. But they hardly notice that they are doing it, Mr. Anderson said.

Such observations by anthropologists can be important for sales later on. When Canon first introduced its color printers for the home market in 1995, said Dr. Squires, who works for GVO, a consumer product consulting company in Palo Alto, Calif., consumers did not know what to do with them. So a team of researchers from GVO went into homes to examine refrigerator doors and bedroom walls for the types of printed material families create and exchange. The result was Canon Creative, the greeting card, T-shirt and poster software that comes bundled with the printers. Sales of the printers took off, Dr. Squires said.

But corporate anthropologists operate under constraints that make their jobs harder. Ms. McClard said the year and a half she took for an academic project seemed like "a real luxury" from the standpoint of the corporate world. A project for, say, Media One lasts just a few months.

So many of those anthropologists find it hard to present their findings, often from limited field samples, in a way that interests the people in the company who plan and design products. "Part of the challenge is telling the story in a way that makes it compelling to people who have the power to develop products," Ms. McClard said.

Ms. McClard and Mr. Anderson videotape most of their interviews. "When engineers see the people talking, they are more convinced than if we told them stuff," she said. "We have to bring the experience alive for people. We don't have the numbers. The only thing we have is the experience of the people we go out to see."

Larry Prusak, executive director of I.B.M.'s Institute for Knowledge Management, a research organization, in Cambridge, Mass., said he believed that the number of anthropologists in industry would continue to grow.

"There's going to be a huge flourishing of industrial anthropologists in the next 20 years," he said, adding that this was especially true in the technology sector because companies were continuing to study technology's potential for mimicking human behavior. "We're in the infancy in this area, and I don't think anyone would tell you differently."