

# Nonlinear Works and Lives

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## *panel abstract*

This session celebrates the tenth anniversary of the Diana Forsythe Prize by critically re-examining the end/s of the anthropology of technoscience. Past recipients of the Diana Forsythe Prize will present their latest research on technoscience and reflect upon where we began, where we are now, and where we might go in the future. The anthropology of science, technology, and medicine emerged approximately twenty years ago as anthropologists working at the intersection of anthropology and the interdisciplinary field of Science and Technology Studies (STS) joined together to grapple with new theoretical and methodological questions. For example, how should anthropologists study “technoscience” in contexts unfamiliar to anthropology like laboratories, hospitals, universities, corporations, and the virtual worlds of computing at a time when ethnography was being critically re-examined in anthropology and uncritically adopted in STS and other academic disciplines? What continuities and ruptures with our past work have occurred over the last two decades? How has our field transformed itself as STS inspired research has engaged both emergent and traditional anthropological publics in medical anthropology, the anthropology of work, environmental anthropology, feminist anthropology, biological anthropology, and the study of social movements among others? In what ways have our theoretical, methodological, and political ends changed?

As you write your presentation, consider addressing one or more of these issues through your own work or the work of others, especially those on the panel. One possible tactic might be to compare your current projects with the projects you worked on 10, 15, or 20 years ago and discuss how they are similar or different and why.

When I was an undergraduate anthropology major in the late 1980s, I was fascinated by cognitive anthropology — by the work of Charles Frake, James Spradley, Jane Collier, which offered schemes for organizing systems of cultural common sense in grid-like representations, representations that, as it happened, looked not too different from the Pascal computer programs I was writing at around that time in courses on Artificial Intelligence. But I was also taken by the more unruly symbolic and interpretative anthropology so artfully spun by Victor Turner, Michelle Rosaldo, and James Fernandez. I began to wonder how cognitive and symbolic anthropology might be brought together.

When I first encountered the writing of Diana Forsythe in the early 1990s, then, I was thrilled to see her doing just this hybrid work — and more, by how Forsythe employed interpretative techniques to think reflexively about cognitive models themselves. Diana showed us how grids of intelligibility are never separate from the *content* they purport to organize — and never separate from the symbolism that that content summons forth. An eloquent demonstration of that argument appeared early on, in her 1989 “German Identity and the Problem of History,” an essay that showed how taxonomies of German citizenship and belonging were necessarily shaped by the long historical shadow of a body of complex and potent symbolisms. Forsythe’s commitment to showing how bureaucratic and scientific classification might be overdetermined by styles of dominant cultural common sense would continue to come into crisp relief in her writings on Artificial Intelligence, particularly in her examinations of expert systems, computer programs meant to capture expert knowledge.

When I first met Diana in 1994 at a Stanford science studies conference organized by Joan Fujimura, I was happy to see that the scholarship I had come to admire was

written by just the sort of scholar I think one should aspire to be: curious, thoughtful, rigorous, generous. The paper Diana delivered at that conference named in its title an analytic object — “The Representation of Familiar Realities in Advanced Computational Technologies” — that I would find myself working through in *Silicon Second Nature*. That book of mine, which concerned the representation of gender, race, and economy in advanced computational technologies used in life sciences simulation, would not have been possible without Diana’s work, which not only brought interpretative methods to bear on modeling systems, but also argued that feminist theory should be front and center in how scholars should think about the epistemology of technology.

Diana was a kind mentor to and advocate for me as I wrote the dissertation that would become *Silicon Second Nature*. In 1995, I had vital conversations with her about the anthropology of computing over at least two very nice dinners — her treat — at one of her favorite restaurants, Palo Alto’s Mango Café. In 1996, when I invited Diana to speak at a conference in the Cornell Department of Science and Technology Studies, where I was on a postdoc, she continued to be a guiding scholarly example. Her paper, “Representing the User in Software Design” asked after the implicit models of users built into expert systems, opening up questions of how people might employ these models in their “objective self-fashioning” (to borrow a phrase from Joe Dumit’s 2004 book *Picturing Personhood*). As computer scientist Bruce Buchanan, writing of Diana’s examinations of tools in medical informatics, put it in an obituary in the *Pittsburgh Post-Gazette*, “She wanted to make sure that information would go directly to patients.” Diana was concerned with a particular kind of representation: how knowledge relationships are represented in technoscientific artifacts.

I think all of us who have been honored with the Forsythe Prize have hoped to do our best to follow Diana's example of asking how representation — particularly technoscientific representation — shapes experience. But Diana rose above the knowing critique, hoping to enter into conversation with the expert systems practitioners of whom she wrote. In a paper entitled “Using Ethnography to Investigate Life Scientists' Information Needs” published in 1998 in the *Bulletin of the Medical Library Association*, Forsythe argued that the “questions that people ask assume a certain amount of unarticulated background knowledge,” and so “understanding the information needs of life scientists is not a trivial undertaking.” She hoped to contribute constructively to helping others — a commitment shaped, as many have commented, by her lifelong Quakerism. Indeed, I would say that Diana preceded many of us into the realm of what Emily Martin in 1996 called an “irenic” — a non-polemic — mode of engagement. Diana's was a robust and patient feminism, never wavering in its dedication to identifying power differentials and their mystifications, but also never ceasing to work to convince and transform the consciousnesses and consciences of those who might resist such analyses.

Forsythe did all of her impressive work outside the security of a tenure-track academic job. And she used that situated knowledge to call attention to how positions on the margins of knowledge communities might offer different vantage points on dominant technoscientific representations and tools. In an appreciation published in the *National Women's Studies Association Journal* in 1999, Diana's friend and colleague Robin Ruth Linden wrote that “Diana was intrigued by Catherine Bateson's notion that middle-class, professional women frequently ‘improvise’ their careers while, more often, men's careers

reflect normative, linear trajectories.” Diana found this insight useful in thinking about the career of computer scientist Alexandra Forsythe, her mother. But if one were to write an essay on Diana after the manner of the biographical essays in Geertz’s 1988 *Works and Lives: The Anthropologist as Author* (which reported on the works and lives of Lévi-Strauss, Evans-Pritchard, Malinowski, and Benedict), it would have to speak to how Diana Forsythe’s *own* nonlinear life shaped the problems she chose, the diplomacy with which she engaged in cultural critique of her AI colleagues’ work (as David Hess [1998] has pointed out), and the ways she had constantly to revise and reorient in order to make her theories travel — much as the Orkney migrants of whom she wrote in her 1974 dissertation, “Escape To Fulfillment: Urban-Rural Migration And The Future Of A Small Island Community,” had constantly to repurpose their identities. To borrow a term from Rayna Rapp (1999), Diana Forsythe was a kind of “moral pioneer” in the anthropology of science and technology; she led the way for many of us to the problems we chose.

Much has changed, of course, in anthropology and in the worlds of computer science and medicine, since Diana’s death. Straightforward, top-down, computational representation has been joined by new kinds of nonlinear simulation, to some extent complicating the question of how cultural forms and norms can be imagined or treated as stably reproduced in computational materials; think here of the multiple representations, purposes, and practitioners entangled with genomics, proteomics, bioinformatics — of what Cori Hayden (2003) calls the “choppy networks” that actually tie these disparate ontologies together. And expert communities are now not so neatly cordoned off from the publics they would represent, as biosocial Internet communities — around pregnancy

politics, biocolonialism, genetic testing, and brain scans, to take a few examples drawn from books that have won the Forsythe Prize — produce competing knowledges that constantly complicate the inscription of dominant ideologies into computational tools. In *Emergent Forms of Life*, Michael Fischer (2003:7) suggests that “life is outrunning the pedagogies in which we have been trained” — which makes Diana’s hope to uncover “The Representation of Familiar Realities in Advanced Computational Technologies” a more difficult endeavor; computational technologies are now delivering stranger and stranger representations, with multiple relations to social life.

Diana also wrote during a period in which the computer was a kind of “closed world” to use the phrase of historian of computing Paul Edwards (1996). Now, in an age of open-source publics — what Chris Kelty (1998) calls “recursive publics” — to say nothing of the Internet, computing has become much wilder; the reflexivity that Diana brought to thinking about computers has in many ways become part of the devices’ social operating system — though, as Geoff Bowker and Susan Leigh Star stress, in *Sorting Things Out*, a book that Diana would, I think, have enjoyed, it is still more than possible for people to be “torqued” by their biographical encounter with computational accountings of their lives.

I think, then, that Diana’s work still has a good deal to teach us — and can still be heard in the work of such scholars as Myanna Lahsen (2005) on the “seductive simulations” of climate modeling, Christine Hine (2008) on the effects of computerization on the sciences of evolutionary systematics, and Kim Fortun (forthcoming), now writing about the “informating” of environmentalism. UC Irvine informatician Paul Dourish’s work on “ethnography through design” makes explicit Diana’s claim that technical designs constitute not only ethnographic data, but might also

be read — and developed — as ethnographies themselves. In my own recent work concerning the remaking of ocean science in the age of bioinformatics, Forsythe's work continues to be an important touchstone. In my writing on evolutionary taxonomy and the undoing of the tree of life model of descent, I have been interested to find the symbolism of biogenetic kinship simultaneously over- and underdetermining the representation of evolutionary relation among oceanic microorganisms. Everywhere I turn in my study of the effects of genetic engineering and databasing on marine biology, I find questions of classification overgrown by thick symbolic systems, made nonlinear by the worlds in which they swim. Diana Forsythe's legacy — itself nonlinear, surprising, swerving — continues to be a compass for my anthropology of science and technology.

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