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Cyborg Anthropology

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The following is the text of a paper we presented at the 1992 Annual Meeting of the American Anthropological Association in San Francisco. It represents a first attempt at positioning cyborg anthropology in a late capitalist world that situates academic theorizing alongside popular theorizing. We view cyborg anthropology as a descriptive label that marks a cultural project rather than an elite academic practice. In other words, cyborg anthropology is not just for anthropologists or other professional intellectuals. Although we cite broad social and intellectual movements, we do not detail specific relations of affinity through references. We are publishing this statement because we think it provokes important discussions.

We view cyborg anthropology both as an activity of theorizing and as a vehicle for enhancing the participation of cultural anthropologists in contemporary societies. Cyborg anthropology brings the cultural anthropology of science and technology into conversation with established activities in science and technology studies (STS) and feminist studies of science, technology, and medicine. As a theorizing activity, it takes the relations among knowledge production, technological production, and subject production to be a crucial area of anthropological research. Although the cyborg image originated in space research and science fiction to refer to forms of life that are part human and part machine, it is by no means confined to the world of high technology. Rather, cyborg anthropology calls attention more generally to the cultural production of human dis-

tinctiveness by examining ethnographically the boundaries between humans and machines and our visions of the differences that constitute these boundaries. As a participatory activity, it empowers anthropology to be culturally reflective regarding its presence in the practices of science and technology and to imagine how these practices might be otherwise.

Cyborg anthropology articulates in productive and insightful ways with cultural studies. British cultural studies, as it evolved within and emerged from the Birmingham Centre for Contemporary Cultural Studies, sometimes moved beyond a humanist centrism in critiquing how institutional forms produce subject forms, assessing the political implications of biological notions of race, and linking analyses of domination by race, class, and gender. Also, by importing and expanding dramatically an activity of academic theorizing that linked accounts of knowledge and power, American cultural studies provided the non-activist humanities and social sciences with intellectual resources to resist the New Right as it rose rapidly to power during the 1980s. Demonstrating that academic theorizing always has political dimensions, cultural studies has provided both conceptual and political practices for legitimizing those academic activities that seek to articulate more explicitly their knowledge and political contents. Cyborg anthropology takes up this challenge by exploring the production of humanness through machines. It looks for ways to critique, resist, and participate within structures of knowledge and power.

Cyborg anthropology invests in alternative world-making by critically examining the powers of the imagination invested in the sciences and technologies of contemporary societies. In the past, anthropology became a source of insight for popular theorizing precisely because it described alternative worlds and informed the imagination of radical difference. Cyborg anthropology offers new metaphors to both academic and popular theorizing for comprehending the different ways that sciences and technologies work in our lives—metaphors that start with our complicity in many of the processes we wish were otherwise.

Three Areas of Study and Critique

We see cyborg anthropology as exploring three related areas of study and critique that anthropology has been reluctant and ill equipped to pursue. First is the study of contemporary science and technology as cultural activities. Throughout its history, anthropological discourse has taken for granted a sharp distinction between the activities of society and the development of science and technology. That is, in contrast with cultural action in other social arenas, science and technology appear to develop according to their own internal logics within specialized technical communities whose deliberations are essentially opaque and presumably free of cultural content.

Cyborg anthropology is interested in the construction of science and technology as cultural phenomena. It explores the heterogeneous strategies and mechanisms through which members of technical communities produce these cultural forms that appear to lack culture, for example, scientific knowledge that is objective and neutral, the product of only empirical observation and logical

reasoning. Cyborg anthropology is interested in how people construct discourse about science and technology in order to make these meaningful in their lives. Thus, cyborg anthropology helps us to realize that we are all scientists. That is, by reconstructing scientific knowledge in new contexts, including across national and cultural boundaries, we all do science. Since the practice of "doing science" is no longer reserved for scientists, studying science becomes both more amenable to ethnographic investigation and more important as a topic of research.

Anthropological inquiry in these areas is especially important since science and technology have served as both the idiom and the vehicle of much cross-cultural interaction, production, and change. As developments seemingly without culture, science and technology routinely constitute power relations without overt discussion and deliberation. Exploring how science and technology function, whether as purveyors of hegemonic control, as mechanisms of resistance, or as even more complex contributors to cross-national and cross-cultural calculations, cyborg anthropology brings science and technology into anthropology as legitimate areas of inquiry and critique.

The second area of study is a broad critique of the adequacy of "anthropos" as the subject and object of anthropology. In this respect, cyborg anthropology poses a serious challenge to the human-centered foundations of anthropological discourse. The term "cyborg anthropology" is an oxymoron that draws attention to the human-centered presuppositions of anthropological discourse by posing the challenge of alternative formulations. While the skin-bound individual, autonomous bearer of identity and agency, theoretically without gender, race, class, region, or time, has served usefully and productively as the subject of culture and of cultural accounts, alternate accounts of history and subjectivity are also possible.

The autonomy of individuals has already been called into question by poststructuralist and posthumanist critiques. Cyborg anthropology explores a new alternative by examining the argument that human subjects and subjectivity are crucially as much a function of machines, machine relations, and information transfers as they are machine producers and operators. From this perspective, science and technology affect society through the fashioning of selves rather than as external forces. For example, the establishment of anthropological subjects and subjectivities has depended upon boats, trains, planes, typewriters, cameras, telegraphs, and so on. How the positioning of technologies has defined the boundaries of "the field" as well as the positioning of anthropologists within it has been a notable silence in ethnographic writing.

It is increasingly clear that human agency serves in the world today as but one contributor to activities that are growing in scope, that are complex and diverse, and yet are interconnected. The extent of such interconnectedness has been made plain both by the decline of challenges to capitalist hegemony and by

interaction of capitalisms), then it is safe to say that no one person or framework understands them. Instead, understanding must come in pieces, exploring the variable production of such pieces through diverse strategies in diverse environments. One need only reflect on the multiple sites and contests over AIDS—activist struggles to participate in pharmaceutical approval, computer networks concerning treatments internationally, the differential capabilities of education worldwide—in order to realize that ignoring the agencies of technologies drastically limits any anthropological inquiries into the contemporary human condition. If anthropology wants to offer analytical and critical understanding of current diversities, it must blur its own conceptual presuppositions that exclude machines from anthropos.

A crucial first step in blurring the human-centered boundaries of anthropological discourse is to grant membership to the cyborg image in theorizing, that is, to follow in our writing the ways that human agents routinely produce both themselves and their machines as part human and part machine. How are we to write, for example, without using human-centered language? And if writing is a coproduction of human and machine, then who is the "we" that writes? Strategies that have already been used include conceptualizing existing concepts in new ways, such as exploring the attribution of "agency" to machines; positioning new terms and concepts, such as viewing both humans and objects as "actants"; and refiguring the "objective" world of "fact" in various ways by deconstructing the neutral observer. At the same time, however, we must be aware that attempting to write culture without humanity as its sole vehicle threatens to reproduce commodity fetishism and to exclude cyborg anthropology from the current disciplinary bounds of anthropology.

The third area of current study for cyborg anthropology is a recognition of new areas or field sites in which to examine ethnographically how technologies get to participate as agents in producing and reproducing the diverse features of social life, including modalities of subjectivity. Cyborg anthropology holds that machines and other technologies are attributed agency in the construction of subjectivities and bounded realms of knowledge. How does machine agency serve to contrast and maintain desires, rationalities, nationalisms, militarisms, races, genders, sexualities, and so on? How do machines come to adjudicate boundaries on realms of knowledge and competence, insanities, pathologies, and normalcies? In short, from computer visualization to mobile homes to forks, technologies participate actively in every existing realm of anthropological interest.

Relations with STS and Feminist Studies

Over the past decade, the rapid expansion of the constructivist movement in STS has provided numerous theoretical insights and methodological strategies for examining how scientists and technologists construct their knowledge through heterogeneous combinations of interests, rhetorical strategies, manipulations of power, and technological objectives. STS researchers are now also exploring alternative ways of critiquing and participating in societal deliberations

that involve science and technology, including governmental decision making. Cyborg anthropology can contribute to these developments by expanding dramatically the purview of STS beyond the formally institutionalized arenas of science and technology and by retheorizing intervention. That is, cyborg anthropology can document in detail the flows of metaphors in both directions between the realms of academic science theorizing and technological production on the one side, and of popular theorizing and technological participation on the other.

The cyborg anthropology we outline would not be imaginable without the work of feminist studies. In problematizing the body and foregrounding the politics and pleasures of sexualization, feminist studies have articulated just who and what is reproduced (and by what sorts of technologies) when a "human subject" is recognized. Indeed, it is not only the biological reproduction of humanity but the figurative reproduction of humanity that requires critical examination. In recognizing that gender is socially constructed, we re-cognize with self-conscious complicity that culture itself contributes to social technology.

For example, feminist cross-cultural studies have demonstrated that understandings of human reproduction—ours and Others'—are articulated by intersecting mappings of social and biological technologies. Thus, feminist analyses that emphasize and critique the power hierarchies that are intensified by the possibilities of the new reproductive technologies demonstrate "nontraditional" and unexpected relationships between women and technology. As well, lesbian explorations of cultural prohibitions and inhibitions regarding intimacy, pleasure, phallic morphology, and virtual reality suggest that what is new and seductively dangerous is not the new technology per se, but the empowerment of women with technology. For cyborg anthropologists, this kind of danger holds great promise for theorizing and activism.

Alliances not only with the professional discipline of anthropology but also with cultural studies, STS, and feminist studies ensure that cyborg anthropology will stay attuned to the diverse sources and forms of power constituted through science and technology and to alternative methodological strategies for providing analytical understanding and critical intervention.

The Dangers of Cyborg Anthropology

Cyborg anthropology is a dangerous activity. According to the etymology of the word, *danger* derives from *dominium*, meaning lordship or sovereignty. Danger involves the "power of a lord or master . . . to hurt or harm." Cyborg anthropology is a dangerous activity because it accepts the positions it theorizes for itself as a participant in the constructed realms of science and technology. By blurring the boundaries between humans and machines and between society and science, cyborg anthropology views academic scholarship as no refuge either from the practice of science and technology or from domination. By acknowledging its positioning within the activities of science and technology, cyborg anthropology seizes the opportunity to retheorize imagination and resistance from a response to subjection to an act of participation.

One danger of participation in institutionalized science and technology, even if retheorized, is co-optation. That is, accepting participation can shade into the acceptance of presuppositions that constrain the imagination of alternate worlds and undermine the critical edge of ethnographic investigations. One way of maintaining a critical practice is to use our complicity strategically by remaining accountable to both academic theorizing and popular theorizing. Just as it is implicated in popular theorizing, so cyborg anthropology must remain accountable to it.

A second danger is the development of internal contradictions. What happens, for example, when cyborg anthropology comes to speculate on whether it might be better not to have science, not to have technology, not to have anthropology? Yet perhaps because of cyborg anthropology's commitment to imagining alternate worlds, cyborg imagery may also help conceive of strategies for translating existing worlds into new terms. Rather than defining itself out of existence, cyborg anthropology might participate in continued critical translations of "objectivity" and "community."

The dangers of studying "up" and the pleasures of studying "down" are well known. The dangers and the pleasures of discovering the scientist in all of us and our participation in science and technology whether we choose to or not, of understanding ourselves in more terms than simple human agency, and of critiquing our continued participation in cyborg forms of life now await us.

Notes