Symposium on Technology

SPEAKING CYBORG: TECHNOCULTURE AND TECHNONATURE

by Anne Kull

Abstract. Two ways of self-interpretation merged in Western thought: the Hebrew and the Greek. What is unique, if anything, about the human species? The reinterpretation of this problem has been a constant process; here I am referring to Philip Hefner and the term *created co-creator*, and particularly to Donna Haraway and the term *cyborg*. Simultaneously, humans have been fascinated by the thought of transgressing the boundaries that seem to separate them from the rest of nature. Any culture reflects the ways it relates to nature. Our nature is technonature, and our culture is technoculture. Our reality can be best approached by the metaphor and symbol *cyborg*. Donna Haraway's cyborg is not just an interesting figure of speech, it is also a description—of ourselves and our culture. Also, contemporary fiction reflects the return of ontological questions: What is a world? What is the self? The cyborg acknowledges our mode of existence and destabilizes the traditional procedures of identity construction.

Keywords: created co-creator; cyborg; Donna Haraway; Philip Hefner; human being; Bruce Mazlish; technoscience.

From the very beginning, people have tried to define humanity by clarifying the differences between humans and those nonhumans and things that share this planet. In the Judeo-Christian tradition, humans have assured themselves that they are unique, separated from everything else by special

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gifts and qualities. Made in God's image, "a little lower than the angels," possessors of a soul, spiritual as well as corporeal, humans stand apart from and above the rest of the earth. Christians have also long assumed an original unity that was lost.

The other great stream of Western thought arose among the Greeks. Martha Nussbaum (1986) discusses an evocative definition of the human being offered by the chorus in *Antigone.* The passage lists poetically the human conquest of birds and beasts, use of language, and how "clever beyond hope is the inventive craft he possesses," especially as it leads to building cities. Nussbaum summarizes, ". . . the men of the Chorus reflect that the human being is, in fact, a *deinon* thing: a wonderful and strange being not at home in, or in harmony with, the world of nature; a natural being who tears up nature to make itself a home, who then modifies its own nature to make itself cities." The Greek word *deinon* is not easy to translate; according to Nussbaum, it can be used to describe the "dazzling brilliance of the human intellect, of the monstrousness of an evil, of the terrible power of fate" (Nussbaum 1986, 73, 52). Every one of these components of the word *deinon* by itself could be a topic for a book or two.

Thus, both the Hebrews and the Greeks wrestled constantly with the question, What is a human being? There are other ways of phrasing this question, but they are all forms of the self-reflective question, What is unique, if anything, about the human species? Philip Hefner (1993) has used the term "God's created co-creators" to interpret humans in the light of the various Christian affirmations about humans and our scientific knowledge of *Homo sapiens*. The created co-creator also functions as a symbol. It implies that we are not immediately present to ourselves. Self-knowledge requires a semiotic-material technology linking meanings and bodies.

But however firmly they may have believed in the anthropocentric barriers and uniqueness of themselves, people have always been fascinated by the thought of crossing these barriers. Since ancient times, poets have written about humans who take on animal form and animals that seem to act like humans. There is a special place in the literature of horror for creatures dwelling in an intermediate zone between the species—werewolves, vampires, and beasts in human shape. People have also wondered about the creation of human life from nonliving things, dust and ashes, or clay (the golems)—the task Pygmalion accomplished with art and, centuries later, Dr. Frankenstein achieved with science.

A contemporary example (in real life, not in fiction) would be transgenic organisms, which carry genes from "unrelated" organisms. These simultaneously fit into evolutionary discourses and also demolish widely understood senses of natural limit (e.g., transgenic tomatoes). What was distant and unrelated becomes intimate. Science has brought us to the point where manipulating the genetic makeup of human beings is also possible. But

who is to decide what would be the normative human? and on what basis? These are questions that science cannot answer from within its realm of competence. Nor are these merely ethical questions. They are, in fact, philosophical, insofar as philosophy counteracts our tendency to adopt self-evident conceptions of who we are. The cultivation of nature gave rise to culture, yet culture is the modes by which human beings organize their relationship to nature. These modes vary. Our culture is technoculture, and our nature is technonature. But what does not change is that the religions, myths, rituals, art, ideas, institutions, and technoscience through which our culture expresses itself are ultimately reflections of the ways it relates to nature.

If technonature at our moment in history is unmistakably nature for us—and not just nature but nature-culture—then understanding technonature is a way of understanding how nature and culture have become one word. Yet technonature has not received much attention in religious and theological studies. That is, an important part of our experience of nature is not congruent with our thinking about nature.

While all cultures are technological, not all are technoscientific. Technoscience is a form of life, a practice, a culture, a generative matrix. Technoscientific processes rely on vast disparities of wealth, power, agency, sovereignty, and chances of life and death. Technoscience is something we are surrounded by and something a small number of people are authorized to talk about, those who are considered experts. Partly the reason is that technoscience texts are not meant to be read except by the circle of insiders; partly the reason lies in the role of late modern/postmodern technoscience itself. Technoscience, as an institution, began by casting itself as the "other" of religion. Its mythologies, drawn from classical pre-Christian and often materialist sources (Democritus, Epicurus), its antiauthoritarianism, including the Galilean claim to have exceeded the scriptures' and Church Fathers' insights by replacing these with the new sightings possible through the telescope, and the much stronger antireligiosity of the Enlightenment, which cast religion as "superstition" and science as "rationality," all led to the modernist substitution that can be called technoscience as religion. To be critical of the new "true faith" was to be, in effect, heretical, or in modern terms "irrational." But then, where do we begin? Science has a particular style, and it is anonymous, impersonal, corporate, or intersubjective. How to enter this corporate process? One possibility is collaboration. Another is to look at the originating process of science rather than the results of the technoscientific process. In Scandinavian, Dutch, and German technical universities, philosophers have found themselves on research teams and, while they are sometimes assigned the evaluation and consideration of ethical and social outcomes in assessment contexts, sometimes other skills are called for, for example, responding to research designs.

Donna Haraway defines technoscience as "dense nodes of human and nonhuman actors that are brought into alliance by the material, social, and semiotic technologies through which what will count as nature and as matters of fact gets constituted for—and by—many millions of people" (Haraway 1997, 210). Her approach is to explore those who are in the realm of technoscience by using a figuration, a symbol—namely, the cyborg. Cyborg anthropology allows us a glimpse into the production of the human through, by, and along with machines and other organisms. The implosion of culture and nature, technological and organic, results in the cyborg—the hybrid of cybernetic machine and organism. The cyborg is also an intense form of reflection on the world and world making, what it means to be human in technoscientific society, self-construction, and self-loss. The cyborg is a creature of social reality as well as a creature of fiction. Cyborgs appear where boundaries are transgressed: between human and animal, organism and machine, physical and nonphysical. Animals have a special status as natural objects that can show people their origin and therefore their prerational, premanagement, precultural essence. Animals are also raw material of knowledge in the experimental sciences—they can be used to construct and test model systems for both human physiology and politics. Thus, just when we are becoming cyborgs, we also insist on our kinship with the animal world: social and natural sciences claim that there is no essential, irreducible distinction between humans and animals. Animals, or at least some of them, are also granted legal rights and thus are made part of "society." (The cyborg is a great unifier: whatever or whomever she/he/it touches turns into a cyborg.) Species loneliness may be overcome rhetorically at least; practice is another matter. Our relationship with nature is the correlate to our relationship with ourselves.

Of course, the fundamental thing that must be said of humans is that they are evolutionary, emerging, changing beings, a symbiosis of genes and culture. On the other hand, it is clear that over long stretches of time certain aspects of human biological nature run deep and are largely constant. The other fundamental statement that has been made about humans as evolutionary beings is that they are a particular combination and degree of traits, many of which individually will be shared with other animals (and later, with machines). The point of evolution is that change in any one part or trait requires change or adaptation in others. Human beings are also brainy beings, and they have bodies that need amino acids, a consistent range of body temperature, and countless other things. Bodies don't well tolerate being taken apart. But the body is not a simple given. Bodies are decorated, mutilated, disguised, hidden, and displayed. People produce societies and cultures. Cultures embody values as well as the acquired, material knowledge of the group. So one could argue that part of the uniqueness of humans is their drive to build their own bodies and tools, and later, machines—and all along to construct narratives about their activities.

By the end of World War II it was clear that the mechanization of the human, the vitalization of the machine, and the integration of both into cybernetics was producing a whole new range of informational disciplines, fantasies, and practices that transgressed the mechanical-organic border. This marked a major transition from a world where distinctions between human and tool, human and machine, living and dead, organic and inorganic, present and distant, natural and artificial seem clear (even if in actuality they were not) to the present world, where all of these distinctions seem plastic, if not ludicrous.

This watershed has been noted by a fair number of observers. Haraway marks it with the sign of the cyborg, while others call it the age of the vital machine, the fourth discontinuity, the posthuman, or the transhuman.

Mechanical/organic merging can be seen as the synthesis of two central currents of Western culture: the mechanical and the organic worldviews. Organic systems are increasingly described in information-processing terms, while computer simulation software, for example, is using the language of biology in the veritable implosion of biologics and informatics. From artificial life programs to "living-dead" cadaver/organ donors, the line between the organic and the mechanical is becoming very blurred indeed.

Bruce Mazlish in his *The Fourth Discontinuity* (1993) writes that Western intellectual history can be seen as the overcoming of a series of great illusions, which he termed *discontinuities* because they posited as natural four artificial distinctions, those between (1) humans and the cosmos (overcome by Copernicus), (2) humans and other life forms (overcome by Darwin), (3) humans and our unconscious (overcome by Freud), and (4) humans and machines. Wheresoever we witness the dissolving of the fourth discontinuity, cyborgs arrive.

I suspect that the cyborg may help us see more specifically whether other central stories of our age are accurate or useful. Many of these other stories are ancient, about gender and power, life, love, death, God, and the nature of nature.

For some, the machine symbolizes death, and for others, eternal life. Mazlish reflects on the coevolution of humans and machines:

> Our pride . . . may be humbled even further by the recognition that we are on a continuum with the machines we have created, though the continuum is of a different kind from that which connects us with the other animals. The continuity of which I am speaking lies in the recognition that human biological evolution, now best understood in cultural terms, forces upon humankind—us—the consciousness that tools and machines are inseparable from evolving human nature. It also requires us to realize that the development of machines, culminating in the computer, makes inescapable the awareness that the same theories that are useful in explaining the workings of mechanical contrivances are also useful in understanding the human animal—and vice versa, for the understanding of the human brain sheds light on the nature of artificial intelligence. (Mazlish 1993, 232–33)

Of course, machines have been evolving, and the present rate of novel developments is stupendous. The visible symbols of technological aspiration that characterized the industrial age and the space age have almost disappeared from our consciousness. The newly proliferating electronic infotechnologies are invisible, circulating outside of the human experience of space and time; modern machinery is about consciousness or its simulation. That invisibility makes them less susceptible to representation, and thus comprehension, at the same time as the technological contours of existence become more difficult to ignore.

> There had arisen a cultural crisis of visibility and control over a new electronically defined reality. It has become increasingly difficult to separate the human from the technological, and this is true rhetorically and phenomenologically. Within the metaphors and fictions of postmodern discourse, much is at stake, as electronic technology seems to rise, unbidden, to pose a set of crucial ontological questions regarding the status *and power* of the human. (Bukatman 1993, 2)

Both science fiction (SF) and mainstream postmodernist fiction possess repertoires of strategies and motifs designed to raise and explore ontological issues. SF is governed by an ontological dominant by contrast with modernist fiction, which raises and explores issues of epistemology and thus is governed by an epistemological dominant. Epistemologically oriented fiction (spy and detective novels, for example) is preoccupied with questions such as: What is there to know about the world, who knows it, and how reliably? How is knowledge transmitted, to whom, and how reliably? Ontologically oriented fiction (postmodernism; SF, especially SF written by women; cyberpunk) is preoccupied with questions such as: What is a world? How is a world constituted? How do different worlds and different kinds of worlds differ, and what happens when one passes from one world to another? At the same time, literary models of the self become plural, unstable. If we posit an unstable world, "the self" is also unstable—self-contradictory, hypothetical, fictional, infiltrated by other worlds and realities. Of course, fragmentation and dispersal of the self and the worlds in fiction occur at the levels of language, narrative structure, and/or the material medium (the printed book) (McHale 1992, 247). The cyborg, on the contrary, is "a condensed image of both imagination and material reality, the two joined centres structuring any possibility of historical transformation" (Haraway 1991, 150). And, as Haraway demonstrates, when technology intersects with the body, either in reality or in representations, the basis of gendered subjectivity crumbles.

To say that the cyborg is our ontology, our structure and identity, is a way of acknowledging that technoscience makes us who we are. We live science fiction and fact. We are cyborgs because we are the instruments of a powerful technological, medicinal, scientific, and military system that appropriates and reshapes the world at an ever-increasing rate. We are cyborgs also because, with the Human Genome Project, humans and other

organisms become a particular kind of text that can be reduced to code fragments banked in transnational data storage systems and redistributed in various ways that fundamentally affect reproduction and labor and life opportunities. Appropriation is also a spiritual and philosophical process, since our minds are full of the dreams of the machine. The cyborg myth acknowledges our technicized natures. And it recognizes that while sciences multiply the definitions of humans, they don't displace the previous ones. If the human does not possess a stable form, as cyborg theoreticians claim, nevertheless it is not formless. We have become cyborgs because our culture's myths have enabled us to define ourselves that way. The cyborg signals the end of a conception of the human as an autonomous individual possessing a "self," distinguished from the rest of nature by rational free will (as if this had ever been the case). There are no innocent subject-positionings. Neither are things/artifacts/machines just things—all things have stories alive in them, as it were. Things are gatherers: around a single contraceptive pill, bishops, pharmacists, biochemical companies, social workers, legislators, media people, mothers, and others gather into a most motley crowd. Things mediate social relationships, now as well as in the past. Technoscience finds its embodiment in its technological living and nonliving tools.

Donna Haraway is hopeful and trusting that humans are capable of a mature relationship with the technological and natural. Trust, however, must be adequate to its occasion. Thus, it requires an enormous amount of learning and attentiveness. To counter technophobic and technolatric tendencies one needs multiple literacies, skilled translators, and mediators.

Haraway has pointed out that cyborgs defy easy origin stories, insisting instead on more complicated accounts of the production and mixing of human and nonhuman agencies. Cyborgs pose a question for our existence: "might it be possible to formulate new strategies for improving the conditions of humans that accepted mutual figurations of human and machine rather than necessarily premising authentic human existence upon a principled and permanent separation?" (Downey and Dumit 1997, 7). Our articulations have power: they shape our world and enable as well as disable. Conversely, the limits of our language constrain our world. Haraway is looking for a figure of humanity outside the narratives of humanism. Cyborg myth is a narrative of permanent possibility, of accommodation of the nonhuman in the fabric of the social. The careful divide between what is cultural and what is natural is not that interesting; culture and nature are the consequences, not the causes, of the relays, networks, and alliances. The definitions of nature, society, religion, politics, technology, and science are all produced together; we can do better than have religion without nature, society without religion, nature without technology, and so on. It sounds strange only because we are contextualized by an intellectual tradition that says the opposite. In feminist cyborg discourse,

emergence replaces teleology, distributed cognition replaces autonomous will, embodiment replaces a body seen as a support system for the mind, and a dynamic partnership between humans and nonhumans (including intelligent machines) replaces the liberal humanist subject's manifest destiny to dominate and control nature. Of course, this is not necessarily what cyborgs will be about—only what cyborgs can mean, given that cyborg argument is still somewhat fluid and new visions and worlds are possible.

People construct their identities and meaningful discourses not only around their being but also around the science and technology in everyday life. The work of cyborg anthropologists, who follow ethnographically actors and actants in technoculture, could help us to understand how science and technology constitute power relations, how science and technology participate in everyday human experiences, how we emerge as functional or metaphorical cyborgs in most unexpected situations. The cyborg image helps by reminding us not to hide or overlook ambiguous or ambivalent human experiences of pleasure in, desire for, and anxiety over sciences, technologies, and medicines, whatever and wherever these might be. There are continuities and there are emerging novelties. But hardly any political or economical or cultural or theological analysis of the era, sometimes called (the transition to) postmodernity, goes deep enough into human experiences with and participation within the spheres of science, technology, and medicine.

The cyborg is a figure of inquiry, of possible access, of fear, of hope. It is both a heuristic device and a lived reality. It signals the danger and also the possibilities of resistance.

> Because [the cyborg] calls attention to the tremendous impact technology is having on us, the cyborg which conceptually debuted in the arts has become a key interpretive symbol for the human self. Like vassal, lord, citizen, and proletariat before it, the cyborg paints humanness in a historical context. It discloses how the organization of contemporary social and political life is working in consort with the reigning means of production to influence the range of humanness possible in our era. (Brasher 1996, 815)

The cyborg describes a contemporary mode of existence. The cyborg has no recourse to an imagined organic unity. It embodies a contradiction—it is both about intensified control, surveillance, simulation, and rampant voluntarism and about extended kinship systems. It is a stuttering discourse, because we have not yet figured out how to live with what we know. Even to have a concept of the cyborg, without literally cyborgic embodiment, makes us entirely different from people who lived only a few decades ago. Cyborg writing is about getting to know what we already know but are reluctant to admit.

However, our bodies are the result of thousands of years of sedimented evolutionary history, and it would be hard to imagine that this history does not affect humans at every level of thought and action. "Interpreted

through metaphors resonant with cultural meanings, the body itself is a congealed metaphor, a physical structure whose constraints and possibilities have been formed by an evolutionary history that intelligent machines do not share" (Hayles 1999, 284). Humans may enter into symbiotic relationships with intelligent machines, but there is a limit to how seamlessly humans can be hybridized, because machines remain distinctively different in their embodiment.

Haraway's cyborg deliberations interrogate the ongoing construction of identities and equally the process of meaning as it develops. What will count as human is not given by definition; it is not neutrally available. It emerges only from relations, by engagement in situated, worldly encounters, where boundaries take shape and categories settle into place. Identity is a co-creation among humans and nonhumans, other organisms, machines, and myths and metaphors. The cyborg makes it possible to affirm our createdness with a new specificity and our creativeness along with the creativeness of the rest of reality. Experience, however inseparable from the commotions of the soul, drives faith again less inward and more toward the external—nature, culture, politics, technology, a world of temporary coalitions and networks. The cyborg does not live just inside, hidden in the mind or soul, but outside among and alongside other organisms and machines.

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