

Donna J. Haraway

## A Cyborg Manifesto

(1985; 1991)

Literary theorist Donna Haraway (b. 1944) belongs to a school of thought known as post-structuralism, a philosophical and literary theory dating from

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6. PPEP is an acronym for smallest gap, or "plus petit écart possible." [Trans.]

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1 the late 1960s. Post-structuralists see traditional Western rationalist philosophy  
 2 as a flawed system based on dichotomies — paired sets of opposite concepts  
 3 such as White/Black, male/female, and human/machine — that are presented  
 4 as natural truths but that are in fact fictional oppositions that serve to heighten  
 5 the status of one term over the other. Post-structuralist theory seeks to under-  
 6 mine oppressive power relations by showing how these dichotomies are false  
 7 and always break down under close examination. In this influential essay,  
 8 Haraway proposes the idea of the cyborg — an amalgam of human and  
 9 machine, biological and mechanical — as the model for a new form of con-  
 10 sciousness and political activism. The cyborg for Haraway represents a hybrid,  
 1 or mixed, state of being — a more complex, ambiguous, and fluid identity that  
 2 can free us from the tyranny of binary oppositions in our political and personal  
 3 relationships. Like many post-structuralist critics, Haraway uses a dense and  
 4 challenging prose style that may seem daunting at first, but readers who are  
 5 willing to suspend disbelief will soon begin to enjoy the audacity and evocative  
 6 force of her metaphors and will discover, as her key terms gradually gain reso-  
 7 nance and power over the course of the text, that she is a poet as much as a  
 8 philosopher.

9 The interplay of textual references is an essential element of Haraway's  
 20 writing, but can be daunting for the general reader. Accordingly, some of  
 1 Haraway's footnotes have been edited for this edition, with the intent of keep-  
 2 ing the focus on Haraway's own argument while still conveying a sense of the  
 3 rich counterpoint these references provide.

#### 5 **AN IRONIC DREAM OF A COMMON LANGUAGE FOR WOMEN** 6 **IN THE INTEGRATED CIRCUIT**

7 This chapter is an effort to build an ironic political myth faithful to femi-  
 8 nism, socialism, and materialism. Perhaps more faithful as blasphemy is  
 9 faithful, than as reverent worship and identification. Blasphemy has always  
 30 seemed to require taking things very seriously. I know no better stance to  
 1 adopt from within the secular-religious, evangelical traditions of United  
 2 States politics, including the politics of socialist feminism. Blasphemy pro-  
 3 tects one from the moral majority within, while still insisting on the need  
 4 for community. Blasphemy is not apostasy. Irony is about contradictions  
 5 that do not resolve into larger wholes, even dialectically, about the tension  
 6 of holding incompatible things together because both or all are necessary  
 7 and true. Irony is about humor and serious play. It is also a rhetorical strat-  
 8 egy and a political method, one I would like to see more honored within  
 9 socialist-feminism. At the center of my ironic faith, my blasphemy, is the  
 40 image of the cyborg.

1 A cyborg is a cybernetic organism, a hybrid of machine and organism,  
 2 a creature of social reality as well as a creature of fiction. Social reality is  
 3 lived social relations, our most important political construction, a world-  
 4 changing fiction. The international women's movements have constructed  
 5 "women's experience," as well as uncovered or discovered this crucial col-  
 6 lective object. This experience is a fiction and fact of the most crucial,  
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political kind. Liberation rests on the construction of the consciousness, the imaginative apprehension, of oppression, and so of possibility. The cyborg is a matter of fiction and lived experience that changes what counts as women's experience in the late twentieth century. This is a struggle over life and death, but the boundary between science fiction and social reality is an optical illusion.

Contemporary science fiction is full of cyborgs — creatures simultaneously animal and machine, who populate worlds ambiguously natural and crafted. Modern medicine is also full of cyborgs, of couplings between organism and machine, each conceived as coded devices, in an intimacy and with a power that was not generated in the history of sexuality. Cyborg "sex" restores some of the lovely replicative baroque of ferns and invertebrates (such nice organic prophylactics against heterosexism). Cyborg replication is uncoupled from organic reproduction. Modern production seems like a dream of cyborg colonization work, a dream that makes the nightmare of Taylorism seem idyllic. And modern war is a cyborg orgy, coded by C<sup>3</sup>I, command-control-communication-intelligence, an \$84 billion item in 1984's U.S. defense budget. I am making an argument for the cyborg as a fiction mapping our social and bodily reality and as an imaginative resource suggesting some very fruitful couplings. Michael Foucault's biopolitics is a flaccid premonition of cyborg politics, a very open field.

By the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs. The cyborg is our ontology; it gives us our politics. The cyborg is a condensed image of both imagination and material reality, the two joined centers structuring any possibility of historical transformation. In the traditions of "Western" science and politics — the tradition of racist, male-dominant capitalism; the tradition of progress; the tradition of the appropriation of nature as resource for the productions of culture; the tradition of reproduction of the self from the reflections of the other — the relation between organism and machine has been a border war. The stakes in the border war have been the territories of production, reproduction, and imagination. This chapter is an argument for *pleasure* in the confusion of boundaries and for *responsibility* in their construction. It is also an effort to contribute to socialist-feminist culture and theory in a postmodernist, non-naturalist mode and in the utopian tradition of imagining a world without gender, which is perhaps a world without genesis, but maybe also a world without end. The cyborg incarnation is outside salvation history. Nor does it mark time on an oedipal calendar, attempting to heal the terrible cleavages of gender in an oral symbiotic utopia or post-oedipal apocalypse. As Zoe Sofoulis argues in her unpublished manuscript on Jacques Lacan, Melanie Klein, and nuclear culture, *Lacklein*, the most terrible and perhaps the most promising monsters in cyborg worlds are embodied in non-oedipal narratives with a different logic of repression, which we need to understand for our survival.

The cyborg is a creature in a post-gender world; it has no truck with bisexuality, pre-oedipal symbiosis, unalienated labor, or other seductions to

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1 organic wholeness through a final appropriation of all the powers of the  
 2 parts into a higher unity. In a sense, the cyborg has no origin story in the  
 3 Western sense — a “final” irony since the cyborg is also the awful apoca-  
 4 lyptic *telos* of the “West’s” escalating dominations of abstract individuation,  
 5 an ultimate self untied at last from all dependency, a man in space. An ori-  
 6 gin story in the “Western,” humanist sense depends on the myth of origi-  
 7 nal unity, fullness, bliss, and terror, represented by the phallic mother from  
 8 whom all humans must separate, the task of individual development and  
 9 of history, the twin potent myths inscribed most powerfully for us in psy-  
 10 choanalysis and Marxism. Hilary Klein has argued that both Marxism and  
 1 psychoanalysis, in their concepts of labor and of individuation and gender  
 2 formation, depend on the plot of original unity out of which difference  
 3 must be produced and enlisted in a drama of escalating domination of  
 4 woman/nature. The cyborg skips the step of original unity, of identification  
 5 with nature in the Western sense. This is its illegitimate promise that  
 6 might lead to subversion of its teleology as Star Wars.

7 The cyborg is resolutely committed to partiality, irony, intimacy, and  
 8 perversity. It is oppositional, utopian, and completely without innocence.  
 9 No longer structured by the polarity of public and private, the cyborg  
 20 defines a technological polis based partly on a revolution of social relations  
 1 in the *oikos*, the household. Nature and culture are reworked; the one can  
 2 no longer be the resource for appropriation or incorporation by the other.  
 3 The relationships for forming wholes from parts, including those of polar-  
 4 ity and hierarchical domination, are at issue in the cyborg world. Unlike  
 5 the hopes of Frankenstein’s monster, the cyborg does not expect its father  
 6 to save it through a restoration of the garden; that is, through the fabrica-  
 7 tion of a heterosexual mate, through its completion in a finished whole, a  
 8 city and cosmos. The cyborg does not dream of community on the model  
 9 of the organic family, this time without the oedipal project. The cyborg  
 30 would not recognize the Garden of Eden; it is not made of mud and can-  
 1 not dream of returning to dust. Perhaps that is why I want to see if cyborgs  
 2 can subvert the apocalypse of returning to nuclear dust in the manic  
 3 compulsion to name the Enemy. Cyborgs are not reverent; they do not re-  
 4 member the cosmos. They are wary of holism, but needy for connection —  
 5 they seem to have a natural feel for united front politics, but without the  
 6 vanguard party. The main trouble with cyborgs, of course, is that they are  
 7 the illegitimate offspring of militarism and patriarchal capitalism, not to  
 8 mention state socialism. But illegitimate offspring are often exceedingly  
 9 unfaithful to their origins. Their fathers, after all, are inessential.

40 I will return to the science fiction of cyborgs at the end of this chap-  
 1 ter, but now I want to signal three crucial boundary breakdowns that make  
 2 the following political-fictional (political-scientific) analysis possible. By  
 3 the late twentieth century in United States scientific culture, the bound-  
 4 ary between human and animal is thoroughly breached. The last beach-  
 5 heads of uniqueness have been polluted if not turned into amusement  
 6 parks — language, tool use, social behavior, mental events, nothing really  
 47 convincingly settles the separation of human and animal. And many

people no longer feel the need for such a separation; indeed, many branches of feminist culture affirm the pleasure of connection of human and other living creatures. Movements for animal rights are not irrational denials of human uniqueness; they are a clear-sighted recognition of connection across the discredited breach of nature and culture. Biology and evolutionary theory over the last two centuries have simultaneously produced modern organisms as objects of knowledge and reduced the line between humans and animals to a faint trace re-etched in ideological struggle or professional disputes between life and social science. Within this framework, teaching modern Christian creationism should be fought as a form of child abuse.

Biological-determinist ideology is only one position opened up in scientific culture for arguing the meanings of human animality. There is much room for radical political people to contest the meanings of the breached boundary.<sup>1</sup> The cyborg appears in myth precisely where the boundary between human and animal is transgressed. Far from signalling a walling off of people from other living beings, cyborgs signal disturbingly and pleasurably tight coupling. Bestiality has a new status in this cycle of marriage exchange.

The second leaky distinction is between animal-human (organism) and machine. Pre-cybernetic machines could be haunted; there was always the spectre of the ghost in the machine. This dualism structured the dialogue between materialism and idealism that was settled by a dialectical progeny, called spirit or history, according to taste. But basically machines were not self-moving, self-designing, autonomous. They could not achieve man's dream, only mock it. They were not man, an author to himself, but only a

1. Research was funded by an Academic Senate Faculty Research Grant from the University of California, Santa Cruz. An earlier version of the paper on genetic engineering appeared as "Lieber Kyborg als Göttin: für eine sozialistisch-feministische Unterwanderung der Gentechnologie," in Bernd-Peter Lange and Anna Marie Stuby eds, Berlin: Argument-Sonderband 105, 1984, pp 66–84. The cyborg manifesto grew from my "New machines, new bodies, new communities: political dilemmas of a cyborg feminist" "The Scholar and the Feminist X: The Question of Technology," Conference, Barnard College, April 1983.

The people associated with the History of Consciousness Board of UCSC have had an enormous influence on this paper, so that it feels collectively authored more than most, although those I cite may not recognize their ideas. In particular, members of graduate and undergraduate feminist theory, science, and politics, and theory and methods courses contributed to the cyborg manifesto. Particular debts here are due Hilary Klein, Paul Edwards, Lisa Lowe, and James Clifford.

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1 caricature of that masculinist reproductive dream. To think they were oth-  
 2 erwise was paranoid. Now we are not so sure. Late twentieth-century  
 3 machines have made thoroughly ambiguous the difference between natu-  
 4 ral and artificial, mind and body, self-developing and externally designed,  
 5 and many other distinctions that used to apply to organisms and machines.  
 6 Our machines are disturbingly lively, and we ourselves frighteningly inert.

7 Technological determination is only one ideological space opened up  
 8 by the reconceptions of machine and organism as coded texts through  
 9 which we engage in the play of writing and reading the world.  
 10 "Textualization" of everything in poststructuralist, postmodernist theory  
 1 has been damned by Marxists and socialist feminists for its utopian disre-  
 2 gard for the lived relations of domination that ground the "play" of arbitrary  
 3 reading.<sup>2</sup> It is certainly true that postmodernist strategies, like my cyborg  
 4 myth, subvert myriad organic wholes (for example, the poem, the primitive  
 5 culture, the biological organism). In short, the certainty of what counts as  
 6 nature — a source of insight and promise of innocence — is undermined,  
 7 probably fatally. The transcendent authorization of interpretation is lost,  
 8 and with it the ontology grounding "Western" epistemology. But the alter-  
 9 native is not cynicism or faithlessness, that is, some version of abstract  
 20 existence, like the accounts of technological determinism destroying "man"  
 1 by the "machine" or "meaningful political action" by the "text." Who  
 2 cyborgs will be is a radical question; the answers are a matter of survival.  
 3 Both chimpanzees and artefacts have politics, so why shouldn't we (de  
 4 Waal, 1982; Winner, 1980)?<sup>3</sup>

2. A provocative, comprehensive argument about the politics and theories of "postmodernism" is made by Fredric Jameson (1984), ["Post-modernism, or the Cultural Logic of Late Capitalism." *New Left Review* 146: 53–92.] who argues that postmodernism is not an option, a style among others, but a cultural dominant requiring radical reinvention of left politics from within; there is no longer any place from without that gives meaning to the comforting fiction of critical distance. Jameson also makes clear why one cannot be for or against postmodernism, an essentially moralist move. My position is that feminists (and others) need continuous cultural reinvention, postmodernist critique, and historical materialism; only a cyborg would have a chance. The old dominations of white capitalist patriarchy seem nostalgically innocent now: They normalized heterogeneity, into man and woman, white and black, for example. "Advanced capitalism" and postmodernism release heterogeneity without a norm, and we are flattened, without subjectivity, which requires depth, even unfriendly and drowning depths. It is time to write *The Death of the Clinic*. The clinic's methods required bodies and works; we have texts and surfaces. Our dominations don't work by medicalization and normalization any more; they work by networking, communications redesign, stress management. Normalization gives way to automation, utter redundancy. Michel Foucault's *Birth of the Clinic* (1963) [New York: Vintage], *History of Sexuality* (1976) [New York: Pantheon], and *Discipline and Punish* (1975) [New York: Vintage] name a form of power at its moment of implosion. The discourse of biopolitics gives way to technobabble, the language of the spliced substantive; no noun is left whole by the multinationals. These are their names, listed from one issue of *Science*: Tech-Knowledge, Genentech, Allergen, Hybritech, Compupro, Genen-cor, Syntex, Allelix, Agrigenetics Corp., Syntro, Codon, Repligen, MicroAngelo from Scion Corp., Percom Data, Inter Systems, Cyborg Corp., Statcom Corp., Intertec. If we are imprisoned by language, then escape from that prison-house requires language poets, a kind of cultural restriction enzyme to cut the code; cyborg heteroglossia is one form of radical cultural politics.

3. de Waal, Frans (1982). *Chimpanzee Politics: Power and Sex Among the Apes*. New York: Harper & Row; Winner, Langdon (1980). "Do Artifacts Have Politics?" *Daedalus* 109 (1): 121–36. [Ed.]

The third distinction is a subset of the second: The boundary between physical and non-physical is very imprecise for us. Pop physics books on the consequences of quantum theory and the indeterminacy principle are a kind of popular scientific equivalent to Harlequin romances as a marker of radical change in American white heterosexuality: They get it wrong, but they are on the right subject. Modern machines are quintessentially microelectronic devices: They are everywhere and they are invisible. Modern machinery is an irreverent upstart god, mocking the Father's ubiquity and spirituality. The silicon chip is a surface for writing; it is etched in molecular scales disturbed only by atomic noise, the ultimate interference for nuclear scores. Writing, power, and technology are old partners in Western stories of the origin of civilization, but miniaturization has changed our experience of mechanism. Miniaturization has turned out to be about power; small is not so much beautiful as pre-eminently dangerous, as in cruise missiles. Contrast the TV sets of the 1950s or the news cameras of the 1970s with the TV wrist bands or hand-sized video cameras now advertised. Our best machines are made of sunshine; they are all light and clean because they are nothing but signals, electromagnetic waves, a section of a spectrum, and these machines are eminently portable, mobile — a matter of immense human pain in Detroit and Singapore. People are nowhere near so fluid, being both material and opaque. Cyborgs are ether, quintessence.

The ubiquity and invisibility of cyborgs is precisely why these sunshine-belt machines are so deadly. They are as hard to see politically as materially. They are about consciousness — or its simulation. They are floating signifiers moving in pickup trucks across Europe, blocked more effectively by the witch-weavings of the displaced and so unnatural Greenham women, who read the cyborg webs of power so very well, than by the militant labor of older masculinist politics, whose natural constituency needs defense jobs. Ultimately the "hardest" science is about the realm of greatest boundary confusion, the realm of pure number, pure spirit, C<sup>31</sup>, cryptography, and the preservation of potent secrets. The new machines are so clean and light. Their engineers are sun-worshippers mediating a new scientific revolution associated with the night dream of post-industrial society. The diseases evoked by these clean machines are "no more" than the minuscule coding changes of an antigen in the immune system, "no more" than the experience of stress. The nimble fingers of "Oriental" women, the old fascination of little Anglo-Saxon Victorian girls with doll's houses, women's enforced attention to the small take on quite new dimensions in this world. There might be a cyborg Alice taking account of these new dimensions. Ironically, it might be the unnatural cyborg women making chips in Asia and spiral dancing in Santa Rita jail<sup>4</sup> whose constructed unities will guide effective oppositional strategies.

So my cyborg myth is about transgressed boundaries, potent fusions, and dangerous possibilities which progressive people might explore as one

4. A practice at once both spiritual and political that linked guards and arrested antinuclear demonstrators in the Alameda County jail in California in the early 1980s.

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1 part of needed political work. One of my premises is that most American  
 2 socialists and feminists see deepened dualisms of mind and body, animal  
 3 and machine, idealism and materialism in the social practices, symbolic  
 4 formulations, and physical artefacts associated with "high technology" and  
 5 scientific culture. From *One-Dimensional Man* (Marcuse, 1964) to *The*  
 6 *Death of Nature* (Merchant, 1980),<sup>5</sup> the analytic resources developed by  
 7 progressives have insisted on the necessary domination of technics and  
 8 recalled us to an imagined organic body to integrate our resistance.  
 9 Another of my premises is that the need for unity of people trying to resist  
 10 world-wide intensification of domination has never been more acute. But  
 1 a slightly perverse shift of perspective might better enable us to contest for  
 2 meanings, as well as for other forms of power and pleasure in technologi-  
 3 cally mediated societies.

4 From one perspective, a cyborg world is about the final imposition of  
 5 a grid of control on the planet, about the final abstraction embodied in a  
 6 Star Wars apocalypse waged in the name of defense, about the final appro-  
 7 priation of women's bodies in a masculinist orgy of war (Sofia, 1984).<sup>6</sup>  
 8 From another perspective, a cyborg world might be about lived social and  
 9 bodily realities in which people are not afraid of their joint kinship with  
 10 animals and machines, not afraid of permanently partial identities and  
 1 contradictory standpoints. The political struggle is to see from both per-  
 2 spectives at once because each reveals both dominations and possibilities  
 3 unimaginable from the other vantage point. Single vision produces worse  
 4 illusions than double vision or many-headed monsters. Cyborg unities are  
 5 monstrous and illegitimate; in our present political circumstances, we  
 6 could hardly hope for more potent myths for resistance and recoupling. I  
 7 like to imagine LAG, the Livermore Action Group, as a kind of cyborg soci-  
 8 ety, dedicated to realistically converting the laboratories that most fiercely  
 9 embody and spew out the tools of technological apocalypse, and commit-  
 10 ted to building a political form that actually manages to hold together  
 1 witches, engineers, elders, perverts, Christians, mothers, and Leninists  
 2 long enough to disarm the state. Fission Impossible is the name of the  
 3 affinity group in my town. (Affinity: related not by blood but by choice, the  
 4 appeal of one chemical nuclear group for another, avidity.)<sup>7</sup> . . .

5. Marcuse, Herbert (1964). *One-Dimensional Man: Studies in the Ideology of Advanced Industrial Society*. Boston: Beacon; Merchant, Carolyn (1980). *The Death of Nature: Women, Ecology, and the Scientific Revolution*. New York: Harper & Row. [Ed.]

6. Sofia, Zoe (1984). "Jupiter Space." Paper delivered at the American Studies Association, Pomona, CA. [Ed.]

7. Without explicit irony, adopting the spaceship earth/whole earth logo of the planet photographed from space, set off by the slogan "Love Your Mother," the May 1987 Mothers and Others Day action at the nuclear weapons testing facility in Nevada none the less took account of the tragic contradictions of views of the earth. Demonstrators applied for official permits to be on the land from officers of the Western Shoshone tribe, whose territory was invaded by the U.S. government when it built the nuclear weapons test ground in the 1950s. Arrested for trespassing, the demonstrators argued that the police and weapons facility personnel, without authorization from the proper officials, were the trespassers. One affinity group at the women's action called themselves the Surrogate Others; and in solidarity with the creatures forced to tunnel in the same ground with the bomb, they enacted a cyborgian emergence from the constructed body of a large, non-heterosexual desert worm.

**THE INFORMATICS OF DOMINATION**

In this attempt at an epistemological and political position, I would like to sketch a picture of possible unity, a picture indebted to socialist and feminist principles of design. The frame for my sketch is set by the extent and importance of rearrangements in world-wide social relations tied to science and technology. I argue for a politics rooted in claims about fundamental changes in the nature of class, race, and gender in an emerging system of world order analogous in its novelty and scope to that created by industrial capitalism; we are living through a movement from an organic, industrial society to a polymorphous, information system — from all work to all play, a deadly game. Simultaneously material and ideological, the dichotomies may be expressed in the following chart of transitions from the comfortable old hierarchical dominations to the scary new networks I have called the informatics of domination:

Representation	Simulation	1
Bourgeois novel, realism	Science fiction, postmodernism	2
Organism	Biotic component	3
Depth, integrity	Surface, boundary	4
Heat	Noise	5
Biology as clinical practice	Biology as inscription	6
Physiology	Communications engineering	7
Small group	Subsystem	8
Perfection	Optimization	9
Eugenics	Population Control	20
Decadence, <i>Magic Mountain</i>	Obsolescence, <i>Future Shock</i>	1
Hygiene	Stress Management	2
Microbiology, tuberculosis	Immunology, AIDS	3
Organic division of labor	Ergonomics/cybernetics of labor	4
Functional specialization	Modular construction	5
Reproduction	Replication	6
Organic sex role specialization	Optimal genetic strategies	7
Biological determinism	Evolutionary inertia, constraints	8
Community ecology	Ecosystem	9
Racial chain of being	Neo-imperialism, United Nations humanism	30
Scientific management in home/factory	Global factory/Electronic cottage	1
Family/Market/Factory	Women in the Integrated Circuit	2
Family wage	Comparable worth	3
Public/Private	Cyborg citizenship	4
Nature/Culture	Fields of difference	5
Co-operation	Communications enhancement	6
Freud	Lacan	7
Sex	Genetic engineering	8
Labor	Robotics	9
Mind	Artificial Intelligence	40
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1 Second World War  
2 White Capitalist Patriarchy  
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Star Wars  
Informatics of Domination

4 This list suggests several interesting things. First, the objects on the right-  
5 hand side cannot be coded as “natural,” a realization that subverts natura-  
6 listic coding for the left-hand side as well. We cannot go back ideological-  
7 ly or materially. It’s not just that “god” is dead; so is the “goddess.” Or both  
8 are revived in the worlds charged with microelectronic and biotechnologi-  
9 cal politics. In relation to objects like biotic components, one must think  
10 not in terms of essential properties, but in terms of design, boundary con-  
11 straints, rates of flows, systems logics, costs of lowering constraints. Sexual  
12 reproduction is one kind of reproductive strategy among many, with costs  
13 and benefits as a function of the system environment. Ideologies of sexual  
14 reproduction can no longer reasonably call on notions of sex and sex role  
15 as organic aspects in natural objects like organisms and families. Such rea-  
16 soning will be unmasked as irrational, and ironically corporate executives  
17 reading *Playboy* and anti-porn radical feminists will make strange bedfel-  
18 lows in jointly unmasking the irrationalism.

19 Likewise for race, ideologies about human diversity have to be formu-  
20 lated in terms of frequencies of parameters, like blood groups or intelli-  
21 gence scores. It is “irrational” to invoke concepts like primitive and civilized.  
22 For liberals and radicals, the search for integrated social systems gives way  
23 to a new practice called “experimental ethnography” in which an organic  
24 object dissipates in attention to the play of writing. At the level of ideology,  
25 we see translations of racism and colonialism into languages of develop-  
26 ment and under-development, rates and constraints of modernization. Any  
27 objects or persons can be reasonably thought of in terms of disassembly and  
28 reassembly; no “natural” architectures constrain system design. The finan-  
29 cial districts in all the world’s cities, as well as the export processing and  
30 free-trade zones, proclaim this elementary fact of “late capitalism.” The  
31 entire universe of objects that can be known scientifically must be formu-  
32 lated as problems in communications engineering (for the managers) or the-  
33 ories of the text (for those who would resist). Both are cyborg semiologies.

34 One should expect control strategies to concentrate on boundary condi-  
35 tions and interfaces, on rates of flow across boundaries — and not on the  
36 integrity of natural objects. “Integrity” or “sincerity” of the Western self gives  
37 way to decision procedures and expert systems. For example, control strate-  
38 gies applied to women’s capacities to give birth to new human beings will be  
39 developed in the languages of population control and maximization of goal  
40 achievement for individual decision-makers. Control strategies will be for-  
41 mulated in terms of rates, costs of constraints, degrees of freedom. Human  
42 beings, like any other component or subsystem, must be localized in a sys-  
43 tem architecture whose basic modes of operation are probabilistic, statisti-  
44 cal. No objects, spaces, or bodies are sacred in themselves; any component  
45 can be interfaced with any other if the proper standard, the proper code, can  
46 be constructed for processing signals in a common language. Exchange in  
47 this world transcends the universal translation effected by capitalist markets

that Marx analyzed so well. The privileged pathology affecting all kinds of components in this universe is stress — communications breakdown (Hogness, 1983).<sup>8</sup> The cyborg is not subject to Foucault's biopolitics; the cyborg simulates politics, a much more potent field of operations.

This kind of analysis of scientific and cultural objects of knowledge which have appeared historically since the Second World War prepares us to notice some important inadequacies in feminist analysis which has proceeded as if the organic, hierarchical dualisms ordering discourse in "the West" since Aristotle still ruled. They have been cannibalized, or as Zoe Sofia (Sofoulis) might put it, they have been "techno-digested." The dichotomies between mind and body, animal and human, organism and machine, public and private, nature and culture, men and women, primitive and civilized are all in question ideologically. The actual situation of women is their integration/exploitation into a world system of production/reproduction and communication called the informatics of domination. The home, workplace, market, public arena, the body itself — all can be dispersed and interfaced in nearly infinite, polymorphous ways, with large consequences for women and others — consequences that themselves are very different for different people and which make potent oppositional international movements difficult to imagine and essential for survival. One important route for reconstructing socialist-feminist politics is through theory and practice addressed to the social relations of science and technology, including crucially the systems of myth and meanings structuring our imaginations. The cyborg is a kind of disassembled and reassembled, postmodern collective and personal self. This is the self feminists must code.

Communications technologies and biotechnologies are the crucial tools recrafting our bodies. These tools embody and enforce new social relations for women world-wide. Technologies and scientific discourses can be partially understood as formalizations, i.e., as frozen moments, of the fluid social interactions constituting them, but they should also be viewed as instruments for enforcing meanings. The boundary is permeable between tool and myth, instrument and concept, historical systems of social relations and historical anatomies of possible bodies, including objects of knowledge. Indeed, myth and tool mutually constitute each other.

Furthermore, communications sciences and modern biologies are constructed by a common move — *the translation of the world into a problem of coding*, a search for a common language in which all resistance to instrumental control disappears and all heterogeneity can be submitted to disassembly, reassembly, investment, and exchange.

In communications sciences, the translation of the world into a problem in coding can be illustrated by looking at cybernetic (feedback-

8. Hogness, E. Rusten (1983). "Why Stress? A Look at the Making of Stress, 1936–56." Unpublished paper. [Ed.]

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1 controlled) systems theories applied to telephone technology, computer  
 2 design, weapons deployment, or database construction and maintenance.  
 3 In each case, solution to the key questions rests on a theory of language and  
 4 control; the key operation is determining the rates, directions, and proba-  
 5 bilities of flow of a quantity called information. The world is subdivided by  
 6 boundaries differentially permeable to information. Information is just that  
 7 kind of quantifiable element (unit, basis of unity) which allows universal  
 8 translation, and so unhindered instrumental power (called effective com-  
 9 munication). The biggest threat to such power is interruption of communi-  
 10 cation. Any system breakdown is a function of stress. The fundamentals of  
 1 this technology can be condensed into the metaphor C<sup>3</sup>I, command-  
 2 control-communication-intelligence, the military's symbol for its operations  
 3 theory.

4 In modern biologies, the translation of the world into a problem in cod-  
 5 ing can be illustrated by molecular genetics, ecology, sociobiological evolu-  
 6 tionary theory, and immunobiology. The organism has been translated into  
 7 problems of genetic coding and read-out. Biotechnology, a writing technol-  
 8 ogy, informs research broadly. In a sense, organisms have ceased to exist as  
 9 objects of knowledge, giving way to biotic components, i.e., special kinds  
 20 of information-processing devices. The analogous moves in ecology could  
 1 be examined by probing the history and utility of the concept of the ecosys-  
 2 tem. Immunobiology and associated medical practices are rich exemplars  
 3 of the privilege of coding and recognition systems as objects of knowledge,  
 4 as constructions of bodily reality for us. Biology here is a kind of cryptog-  
 5 raphy. Research is necessarily a kind of intelligence activity. Ironies  
 6 abound. A stressed system goes awry; its communication processes break  
 7 down; it fails to recognize the difference between self and other. Human  
 8 babies with baboon hearts evoke national ethical perplexity — for animal  
 9 rights activists at least as much as for the guardians of human purity. In the  
 30 United States gay men and intravenous drug users are the “privileged” vic-  
 1 tims of an awful immune system disease that marks (inscribes on the body)  
 2 confusion of boundaries and moral pollution (Treichler, 1987).<sup>9</sup>

3 But these excursions into communications sciences and biology have  
 4 been at a rarefied level; there is a mundane, largely economic reality to  
 5 support my claim that these sciences and technologies indicate fundamen-  
 6 tal transformations in the structure of the world for us. Communications  
 7 technologies depend on electronics. Modern states, multinational corpora-  
 8 tions, military power, welfare state apparatuses, satellite systems, political  
 9 processes, fabrication of our imaginations, labor-control systems, medical  
 40 constructions of our bodies, commercial pornography, the international  
 1 division of labor, and religious evangelism depend intimately upon elec-  
 2 tronics. Microelectronics is the technical basis of simulacra; that is, of  
 3 copies without originals.

9. Treichler, Paula (1987). “AIDS, Homophobia, and Biomedical Discourse: An Epidemic of Signification.” *October* 43: 31–70.

Microelectronics mediates the translations of labor into robotics and word processing, sex into genetic engineering and reproductive technologies, and mind into artificial intelligence and decision procedures. The new biotechnologies concern more than human reproduction. Biology as a powerful engineering science for redesigning materials and processes has revolutionary implications for industry, perhaps most obvious today in areas of fermentation, agriculture, and energy. Communications sciences and biology are constructions of natural-technical objects of knowledge in which the difference between machine and organism is thoroughly blurred; mind, body, and tool are on very intimate terms. The “multinational” material organization of the production and reproduction of daily life and the symbolic organization of the production and reproduction of culture and imagination seem equally implicated. The boundary-maintaining images of base and superstructure, public and private, or material and ideal never seemed more feeble.

I have used Rachel Grossman’s (1980) image of women in the integrated circuit to name the situation of women in a world so intimately restructured through the social relations of science and technology.<sup>10</sup> I used the odd circumlocution, “the social relations of science and technology,” to indicate that we are not dealing with a technological determinism, but with a historical system depending upon structured relations among people. But the phrase should also indicate that science and technology provide fresh sources of power, that we need fresh sources of analysis and political action (Latour, 1984).<sup>11</sup> Some of the rearrangements of race, sex, and class rooted in high-tech-facilitated social relations can make socialist-feminism more relevant to effective progressive politics. . . .

### CYBORGS: A MYTH OF POLITICAL IDENTITY

I want to conclude with a myth about identity and boundaries which might inform late twentieth-century political imaginations. I am indebted in this story to writers like Joanna Russ, Samuel R. Delany, John Varley, James Tiptree Jr., Octavia Butler, Monique Wittig, and Vonda McIntyre.<sup>12</sup> These are our story-tellers exploring what it means to be embodied in high-tech worlds. They are theorists for cyborgs. Exploring conceptions of bodily boundaries and social order, the anthropologist Mary Douglas (1966, 1970)<sup>13</sup> should be credited with helping us to consciousness about how

10. Grossman, Rachel (1980). “Women’s Place in the Integrated Circuit.” *Radical America* 14 (1): 29–50.

11. Latour, Bruno (1984). *Les Microbes, Guerre et Paix, Ruivi des Irréductions*. Paris: Métailié.

12. Monique Wittig is a French feminist, author of *The Lesbian Body* (1973, New York: Avon), as well as a feminist utopian novel, *Les Couéilleries*. All others in this list are American science fiction writers. Haraway credits the following essay for bringing these writers to her attention: Katie King (1984), “The Pleasure of Repetition and the Limits of Identification in Feminist Science Fiction: Reimaginings of the Body After the Cyborg.” Paper delivered at the American Studies Association, Pomona, CA. [Ed.]

13. Douglas, Mary (1966). *Purity and Danger*. London: Routledge (1970). *Natural Symbols*. London: Cresset. [Ed.]

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1 fundamental body imagery is to world view, and so to political language.  
 2 French feminists like Luce Irigaray and Monique Wittig, for all their dif-  
 3 ferences, know how to write the body; how to weave eroticism, cosmology,  
 4 and politics from imagery of embodiment, and especially for Wittig, from  
 5 imagery of fragmentation and reconstitution of bodies.<sup>14</sup>

6 American radical feminists like Susan Griffin, Audre Lorde, and  
 7 Adrienne Rich have profoundly affected our political imaginations — and  
 8 perhaps restricted too much what we allow as a friendly body and political  
 9 language.<sup>15</sup> They insist on the organic, opposing it to the technological.  
 10 But their symbolic systems and the related positions of ecofeminism and  
 1 feminist paganism, replete with organicisms, can only be understood in  
 2 Sandoval's terms as oppositional ideologies fitting the late twentieth century.  
 3 They would simply bewilder anyone not preoccupied with the machines  
 4 and consciousness of late capitalism. In that sense they are part of the  
 5 cyborg world. But there are also great riches for feminists in explicitly  
 6 embracing the possibilities inherent in the breakdown of clean distinctions  
 7 between organism and machine and similar distinctions structuring the  
 8 Western self. It is the simultaneity of breakdowns that cracks the matrices  
 9 of domination and opens geometric possibilities. What might be learned  
 10 from personal and political "technological" pollution? I look briefly at two  
 1 overlapping groups of texts for their insight into the construction of a  
 2 potentially helpful cyborg myth: constructions of women of color and mon-  
 3 strous selves in feminist science fiction.

4 Earlier I suggested that "women of color" might be understood as a  
 5 cyborg identity, a potent subjectivity synthesized from fusions of outsider  
 6 identities and in the complex political-historical layerings of her bio-  
 7 mythography. . . . There are material and cultural grids mapping this poten-  
 8 tial. Audre Lorde (1984) captures the tone in the title of her *Sister*  
 9 *Outsider*. In my political myth, Sister Outsider is the offshore woman,  
 10 whom U.S. workers, female and feminized, are supposed to regard as the  
 1 enemy preventing their solidarity, threatening their security. Onshore,  
 2 inside the boundary of the United States, Sister Outsider is a potential  
 3 amidst the races and ethnic identities of women manipulated for division,  
 4 competition, and exploitation in the same industries. "Women of color"  
 5 are the preferred labor force for the science-based industries, the real  
 6 women for whom the world-wide sexual market, labor market, and politics  
 7 of reproduction kaleidoscope into daily life. Young Korean women hired in  
 8 the sex industry and in electronics assembly are recruited from high  
 9 schools, educated for the integrated circuit. Literacy, especially in English,  
 10 distinguishes the "cheap" female labor so attractive to the multinationals.

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14. Wittig, Monique (1973). *The Lesbian Body*. New York: Avon; Irigaray, Luce (1977). *Ce Sexe Qui N'en est pas Un*. Paris: Minuit. [Ed.]

15. But all these poets are very complex, not least in their treatment of themes of lying and erotic, decentred collective and personal identities. Griffin, Susan (1978). *Women and Nature: The Roaring Inside Her*. New York: Harper & Row; Lorde, Audre (1984). *Sister Outsider*. Trumansberg, NY: Crossing; Rich, Adrienne (1978). *The Dream of a Common Language*. New York: Norton.

Contrary to orientalist stereotypes of the “oral primitive,” literacy is a special mark of women of color, acquired by U.S. black women as well as men through a history of risking death to learn and to teach reading and writing. Writing has a special significance for all colonized groups. Writing has been crucial to the Western myth of the distinction between oral and written cultures, primitive and civilized mentalities, and more recently to the erosion of that distinction in “postmodernist” theories attacking the phallogocentrism of the West, with its worship of the monotheistic, phallic, authoritative, and singular work, the unique and perfect name. Contests for the meanings of writing are a major form of contemporary political struggle. Releasing the play of writing is deadly serious. The poetry and stories of U.S. women of color are repeatedly about writing, about access to the power to signify; but this time that power must be neither phallic nor innocent. Cyborg writing must not be about the Fall, the imagination of a once-upon-a-time wholeness before language, before writing, before Man. Cyborg writing is about the power to survive, not on the basis of original innocence, but on the basis of seizing the tools to mark the world that marked them as other.

The tools are often stories, retold stories, versions that reverse and displace the hierarchical dualisms of naturalized identities. In retelling origin stories, cyborg authors subvert the central myths of origin of Western culture. We have all been colonized by those origin myths, with their longing for fulfillment in apocalypse. The phallogocentric origin stories most crucial for feminist cyborgs are built into the literal technologies — technologies that write the world, biotechnology and microelectronics — that have recently textualized our bodies as code problems on the grid of C<sup>3</sup>I. Feminist cyborg stories have the task of recoding communication and intelligence to subvert command and control.

Figuratively and literally, language politics pervade the struggles of women of color; and stories about language have a special power in the rich contemporary writing by U.S. women of color. For example, retellings of the story of the indigenous woman Malinche, mother of the mestizo “bastard” race of the new world, master of languages, and mistress of Cortés, carry special meaning for Chicana constructions of identity. Cherríe Moraga (1983) in *Loving in the War Years* explores the themes of identity when one never possessed the original language, never told the original story, never resided in the harmony of legitimate heterosexuality in the garden of culture, and so cannot base identity on a myth or a fall from innocence and right to natural names, mother’s or father’s.<sup>16</sup> Moraga’s writing, her superb literacy, is presented in her poetry as the same kind of violation as Malinche’s mastery of the conqueror’s language — a violation, an illegitimate production, that allows survival. Moraga’s language is not “whole,” it is self-consciously spliced, a chimera of English and Spanish, both conqueror’s languages. But it is this chimeric monster, without claim to an original

16. Moraga, Cherríe (1983). *Loving in the War Years: Lo que Nunca Pasó por Sus Labios*. Boston: South End. [Ed.]

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1 language before violation, that crafts the erotic, competent, potent identi-  
2 ties of women of color. Sister Outsider hints at the possibility of world sur-  
3 vival not because of her innocence, but because of her ability to live on the  
4 boundaries, to write without the founding myth of original wholeness, with  
5 its inescapable apocalypse of final return to a deathly oneness that Man has  
6 imagined to be the innocent and all-powerful Mother, freed at the End from  
7 another spiral of appropriation by her son. Writing marks Moraga's body,  
8 affirms it as the body of a woman of color, against the possibility of passing  
9 into the unmarked category of the Anglo father or into the orientalist myth  
10 of "original illiteracy" of a mother that never was. Malinche was mother  
1 here, not Eve before eating the forbidden fruit. Writing affirms Sister  
2 Outsider, not the Woman-before-the-Fall-into-Writing needed by the phal-  
3 logocentric Family of Man.

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5 Writing is pre-eminently the technology of cyborgs, etched surfaces of the  
6 late twentieth century. Cyborg politics is the struggle for language and the  
7 struggle against perfect communication, against the one code that trans-  
8 lates all meaning perfectly, the central dogma of phallogocentrism. That is  
9 why cyborg politics insist on noise and advocate pollution, rejoicing in the  
10 illegitimate fusions of animal and machine. These are the couplings which  
1 make Man and Woman so problematic, subverting the structure of desire,  
2 the force imagined to generate language and gender, and so subverting the  
3 structure and modes of reproduction of "Western" identity, of nature and  
4 culture, of mirror and eye, slave and master, body and mind. "We" did not  
5 originally choose to be cyborgs, but choice grounds a liberal politics and  
6 epistemology that imagines the reproduction of individuals before the  
7 wider replications of "texts."

8 From the perspective of cyborgs, freed of the need to ground politics in  
9 "our" privileged position of the oppression that incorporates all other domi-  
10 nations, the innocence of the merely violated, the ground of those closer to  
1 nature, we can see powerful possibilities. Feminisms and Marxisms have  
2 run aground on Western epistemological imperatives to construct a revolu-  
3 tionary subject from the perspective of a hierarchy of oppressions and/or a  
4 latent position of moral superiority, innocence, and greater closeness to  
5 nature. With no available original dream of a common language or original  
6 symbiosis promising protection from hostile "masculine" separation, but  
7 written into the play of a text that has no finally privileged reading or salva-  
8 tion history, to recognize "oneself" as fully implicated in the world, frees us  
9 of the need to root politics in identification, vanguard parties, purity, and  
10 mothering. Stripped of identity, the bastard race teaches about the power of  
1 the margins and the importance of a mother like Malinche. Women of color  
2 have transformed her from the evil mother of masculinist fear into the origi-  
3 nally literate mother who teaches survival.

4 This is not just literary deconstruction, but liminal transformation.  
5 Every story that begins with original innocence and privileges the return to  
6 wholeness imagines the drama of life to be individuation, separation, the  
7 birth of the self, the tragedy of autonomy, the fall into writing, alienation;  
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that is, war, tempered by imaginary respite in the bosom of the Other. These plots are ruled by a reproductive politics — rebirth without flaw, perfection, abstraction. In this plot women are imagined either better or worse off, but all agree they have less selfhood, weaker individuation, more fusion to the oral, to Mother, less at stake in masculine autonomy. But there is another route to having less at stake in masculine autonomy, a route that does not pass through Woman, Primitive, Zero, the Mirror Stage and its imaginary. It passes through women and other present-tense, illegitimate cyborgs, not of Woman born, who refuse the ideological resources of victimization so as to have a real life. These cyborgs are the people who refuse to disappear on cue, no matter how many times a “Western” commentator remarks on the sad passing of another primitive, another organic group done in by “Western” technology, by writing.<sup>17</sup> These real-life cyborgs (for example, the Southeast Asian village women workers in Japanese and U.S. electronics firms described by Aihwa Ong)<sup>18</sup> are actively rewriting the texts of their bodies and societies. Survival is the stakes in this play of readings.

To recapitulate, certain dualisms have been persistent in Western traditions; they have all been systemic to the logics and practices of domination of women, people of color, nature, workers, animals — in short, domination of all constituted as others, whose task is to mirror the self. Chief among these troubling dualisms are self/other, mind/body, culture/nature, male/female, civilized/primitive, reality/appearance, whole/part, agent/resource, maker/made, active/passive, right/wrong, truth/illusion, total/partial, God/man. The self is the One who is not dominated, who knows that by the service of the other, the other is the one who holds the future, who knows that by the experience of domination, which gives the lie to the autonomy of the self. To be One is to be autonomous, to be powerful, to be God; but to be One is to be an illusion, and so to be involved in a dialectic of apocalypse with the other. Yet to be other is to be multiple, without clear boundary, frayed, insubstantial. One is too few, but two are too many.

High-tech culture challenges these dualisms in intriguing ways. It is not clear who makes and who is made in the relation between human and machine. It is not clear what is mind and what body in machines that resolve into coding practices. Insofar as we know ourselves in both formal discourse (for example, biology) and in daily practice (for example, the homework economy in the integrated circuit), we find ourselves to be cyborgs, hybrids, mosaics, chimeras. Biological organisms have become

17. The convention of ideologically taming militarized high technology by publicizing its applications to speech and motion problems of the disabled/differently abled takes on a special irony in monotheistic, patriarchal, and frequently anti-semitic culture when computer-generated speech allows a boy with no voice to chant the Haftorah at his bar mitzvah. See Sussman, Vic (1986). [“Personal Tech: Technology Lends a Hand.” *The Washington Post Magazine*. 9 November, pp. 45–56.] Making the always context-relative social definitions of “ableness” particularly clear, military high-tech has a way of making human beings disabled by definition, a perverse aspect of much automated battlefield and Star Wars R&D. See Welford [Welford, John Noble (1 July 1986). “Pilot’s Helmet Helps Interpret High Speed World.” *New York Times*, pp. 21, 24.]

18. Ong, Aihwa (1987). *Spirits of Resistance and Capitalist Discipline: Factory Workers in Malaysia*. Albany: SUNY P. [Ed.]

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1 biotic systems, communications devices like others. There is no funda-  
2 mental, ontological separation in our formal knowledge of machine and  
3 organism, of technical and organic. The replicant Rachel in the Ridley  
4 Scott film *Blade Runner* stands as the image of a cyborg culture's fear, love,  
5 and confusion.

6 One consequence is that our sense of connection to our tools is height-  
7 ened. The trance state experienced by many computer users has become a  
8 staple of science-fiction film and cultural jokes. Perhaps paraplegics and  
9 other severely handicapped people can (and sometimes do) have the most  
10 intense experiences of complex hybridization with other communication  
1 devices. Anne McCaffrey's pre-feminist *The Ship Who Sang* (1969) explored  
2 the consciousness of a cyborg, hybrid of girl's brain and complex machinery,  
3 formed after the birth of a severely handicapped child. Gender, sexuality,  
4 embodiment, skill: All were reconstituted in the story. Why should our bod-  
5 ies end at the skin, or include at best other beings encapsulated by skin?  
6 From the seventeenth century till now, machines could be animated —  
7 given ghostly souls to make them speak or move or to account for their orderly  
8 development and mental capacities. Or organisms could be mechanized —  
9 reduced to body understood as resource of mind. These machine/organism  
20 relationships are obsolete, unnecessary. For us, in imagination and in other  
1 practice, machines can be prosthetic devices, intimate components, friend-  
2 ly selves. We don't need organic holism to give impermeable wholeness, the  
3 total woman and her feminist variants (mutants?). Let me conclude this  
4 point by a very partial reading of the logic of the cyborg monsters of my sec-  
5 ond group of texts, feminist science fiction.

6 The cyborgs populating feminist science fiction make very problematic  
7 the statuses of man or woman, human, artefact, member of a race, individ-  
8 ual entity, or body. Katie King clarifies how pleasure in reading these fictions  
9 is not largely based on identification. Students facing Joanna Russ for the  
30 first time, students who have learned to take modernist writers like James  
1 Joyce or Virginia Woolf without flinching, do not know what to make of *The*  
2 *Adventures of Alyx* or *The Female Man*, where characters refuse the reader's  
3 search for innocent wholeness while granting the wish for heroic quests,  
4 exuberant eroticism, and serious politics. *The Female Man* is the story of  
5 four versions of one genotype, all of whom meet, but even taken together  
6 do not make a whole, resolve the dilemmas of violent moral action, or  
7 remove the growing scandal of gender. The feminist science fiction of  
8 Samuel R. Delany, especially *Tales of Nevérjon*, mocks stories of origin by  
9 redoing the neolithic revolution, replaying the founding moves of Western  
40 civilization to subvert their plausibility. James Tiptree Jr., an author whose  
1 fiction was regarded as particularly manly until her "true" gender was  
2 revealed, tells tales of reproduction based on non-mammalian technologies  
3 like alternation of generations of male brood pouches and male nurturing.  
4 John Varley constructs a supreme cyborg in his arch-feminist exploration of  
5 Gaea, a mad goddess-planet-trickster-old woman-technological device on  
6 whose surface an extraordinary array of post-cyborg symbioses are spawned.  
47 Octavia Butler writes of an African sorceress pitting her powers of transfor-

mation against the genetic manipulations of her rival (*Wild Seed*), of time warps that bring a modern U.S. black woman into slavery where her actions in relation to her white master-ancestor determine the possibility of her own birth (*Kindred*), and of the illegitimate insights into identity and community of an adopted cross-species child who came to know the enemy as self (*Survivor*). In *Dawn* (1987), the first installment of a series called *Xenogenesis*, Butler tells the story of Lilith Iyapo, whose personal name recalls Adam's first and repudiated wife and whose family name marks her status as the widow of the son of Nigerian immigrants to the United States. A black woman and a mother whose child is dead, Lilith mediates the transformation of humanity through genetic exchange with extra-terrestrial lovers/rescuers/destroyers/genetic engineers, who reform earth's habitats after the nuclear holocaust and coerce surviving humans into intimate fusion with them. It is a novel that interrogates reproductive, linguistic, and nuclear politics in a mythic field structured by late twentieth-century race and gender.

Because it is particularly rich in boundary transgressions, Vonda McIntyre's *Superluminal* can close this truncated catalogue of promising and dangerous monsters who help redefine the pleasures and politics of embodiment and feminist writing. In a fiction where no character is "simply" human, human status is highly problematic. Orca, a genetically altered diver, can speak with killer whales and survive deep ocean conditions, but she longs to explore space as a pilot, necessitating bionic implants jeopardizing her kinship with the divers and cetaceans. Transformations are effected by virus vectors carrying a new developmental code, by transplant surgery, by implants of microelectronic devices, by analogue doubles, and other means. Laenea becomes a pilot by accepting a heart implant and a host of other alterations allowing survival in transit at speeds exceeding that of light. Radu Dracul survives a virus-caused plague in his outerworld planet to find himself with a time sense that changes the boundaries of spatial perception for the whole species. All the characters explore the limits of language; the dream of communicating experience; and the necessity of limitation, partiality, and intimacy even in this world of protean transformation and connection. *Superluminal* stands also for the defining contradictions of a cyborg world in another sense; it embodies textually the intersection of feminist theory and colonial discourse in the science fiction I have alluded to in this chapter. This is a conjunction with a long history that many "First World" feminists have tried to repress, including myself in my readings of *Superluminal* before being called to account by Zoe Sofoulis, whose different location in the world system's informatics of domination made her acutely alert to the imperialist moment of all science fiction cultures, including women's science fiction. From an Australian feminist sensitivity, Sofoulis remembered more readily McIntyre's role as writer of the adventures of Captain Kirk and Spock in TV's *Star Trek* series than her rewriting the romance in *Superluminal*.

Monsters have always defined the limits of community in Western imaginations. The Centaurs and Amazons of ancient Greece established

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1 the limits of the centered polis of the Greek male human by their disruption  
 2 of marriage and boundary pollutions of the warrior with animality and  
 3 woman. Unseparated twins and hermaphrodites were the confused human  
 4 material in early modern France who grounded discourse on the natural  
 5 and supernatural, medical and legal, portents and diseases — all crucial to  
 6 establishing modern identity. The evolutionary and behavioral sciences of  
 7 monkeys and apes have marked the multiple boundaries of late twentieth-  
 8 century industrial identities. Cyborg monsters in feminist science fiction  
 9 define quite different political possibilities and limits from those proposed  
 10 by the mundane fiction of Man and Woman.

1 There are several consequences to taking seriously the imagery of  
 2 cyborgs as other than our enemies. Our bodies, ourselves; bodies are maps  
 3 of power and identity. Cyborgs are no exception. A cyborg body is not inno-  
 4 cent; it was not born in a garden; it does not seek unitary identity and so  
 5 generate antagonistic dualisms without end (or until the world ends); it  
 6 takes irony for granted. One is too few, and two is only one possibility.  
 7 Intense pleasure in skill, machine skill, ceases to be a sin, but an aspect of  
 8 embodiment. The machine is not an *it* to be animated, worshipped, and  
 9 dominated. The machine is us, our processes, an aspect of our embodi-  
 10 ment. We can be responsible for machines; *they* do not dominate or threaten  
 1 us. We are responsible for boundaries; we are they. Up till now (once upon  
 2 a time), female embodiment seemed to be given, organic, necessary; and  
 3 female embodiment seemed to mean skill in mothering and its metaphoric  
 4 extensions. Only by being out of place could we take intense pleasure in  
 5 machines, and then with excuses that this was organic activity after all,  
 6 appropriate to females. Cyborgs might consider more seriously the partial,  
 7 fluid, sometimes aspect of sex and sexual embodiment. Gender might not  
 8 be global identity after all, even if it has profound historical breadth and  
 9 depth.

10 The ideologically charged question of what counts as daily activity, as  
 1 experience, can be approached by exploiting the cyborg image. Feminists  
 2 have recently claimed that women are given to dailiness, that women more  
 3 than men somehow sustain daily life, and so have a privileged epistemolog-  
 4 ical position potentially. There is a compelling aspect to this claim, one  
 5 that makes visible unvalued female activity and names it as the ground of  
 6 life. But *the* ground of life? What about all the ignorance of women, all the  
 7 exclusions and failures of knowledge and skill? What about men's access  
 8 to daily competence, to knowing how to build things, to take them apart,  
 9 to play? What about other embodiments? Cyborg gender is a local possi-  
 10 bility taking a global vengeance. Race, gender, and capital require a cyborg  
 1 theory of wholes and parts. There is no drive in cyborgs to produce total  
 2 theory, but there is an intimate experience of boundaries, their construc-  
 3 tion and deconstruction. There is a myth system waiting to become a polit-  
 4 ical language to ground one way of looking at science and technology and  
 5 challenging the informatics of domination — in order to act potently.

6 One last image: organisms and organismic, holistic politics depend on  
 7 metaphors of rebirth and invariably call on the resources of reproductive  
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sex. I would suggest that cyborgs have more to do with regeneration and are suspicious of the reproductive matrix and of most birthing. For salamanders, regeneration after injury, such as the loss of a limb, involves regrowth of structure and restoration of function with the constant possibility of twinning or other odd topographical productions at the site of former injury. The regrown limb can be monstrous, duplicated, potent. We have all been injured, profoundly. We require regeneration, not rebirth, and the possibilities for our reconstitution include the utopian dream of the hope for a monstrous world without gender.

Cyborg imagery can help express two crucial arguments in this essay: First, the production of universal, totalizing theory is a major mistake that misses most of reality, probably always, but certainly now; and second, taking responsibility for the social relations of science and technology means refusing an anti-science metaphysics, a demonology of technology, and so means embracing the skillful task of reconstructing the boundaries of daily life, in partial connection with others, in communication with all of our parts. It is not just that science and technology are possible means of great human satisfaction, as well as a matrix of complex dominations. Cyborg imagery can suggest a way out of the maze of dualisms in which we have explained our bodies and our tools to ourselves. This is a dream not of a common language, but of a powerful infidel heteroglossia. It is an imagination of a feminist speaking in tongues to strike fear into the circuits of the supersavers of the new right. It means both building and destroying machines, identities, categories, relationships, space stories. Though both are bound in the spiral dance, I would rather be a cyborg than a goddess.

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