

DONNA HARAWAY'S METATHEORY OF SCIENCE AND RELIGION: CYBORGS, TRICKSTER, AND HERMES

by William Grassie

Abstract. This article is a close reading of two essays by Donna Haraway on feminist philosophy, the biophysical sciences, and critical social theory. Haraway's strong social constructionist approach to science is criticized by colleague Sandra Harding, resulting in an epistemological reconceptualization of objectivity by Haraway. Haraway's notion of "situated knowledges" provides a workable epistemology for *all* social and biophysical sciences, while inviting the reintegration of religions as critical conversation partners in an emancipatory hermeneutics of nature, culture, and technology.

Keywords: critical theory; cyborgs; epistemology; feminist philosophy; Donna Haraway; Sandra Harding; hermeneutics; nature and culture; religion and science; technology.

My protagonist is Donna Haraway, biologist, primatologist, historian of science, committed socialist, and feminist. She is a professor at the History of Consciousness Board at the University of California, Santa Cruz. That the History of Consciousness Board at UCSC was formerly a Department of Religion is significant but incidental to the argument I want to present here. My thesis is that Haraway offers us a metatheory of science and religion. This metatheory is both ironic and serious. It is ironic not so much because Haraway intends it to be, though she is skilled in the use of irony and metaphor in her prose. Rather, in pursuing a postmodern aversion to a "one true story" and to universalizing metanarratives of domination, Haraway stumbled into the grandest narrative of all. I maintain that Haraway unintentionally resurrects a new Unity of Science Project, a 1950s project in

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the philosophy of science before the final disintegration of competing disciplines within discordant philosophies of sciences.¹ In so doing, I will argue, she also necessarily adds religions to what now must be called a *unity of sciences and religions* project. It would seem that this line of postmodern reasoning opens the door to religions as critical components to any epistemology of nature or culture. The medieval scholastic Saint Thomas Aquinas would be pleased with this new synthesis of science and religion but confused by the magnitude of interpretation now required.²

I present this as a play consisting of three scenes of an unfolding plot, a moral conclusion, and a postscript. I begin with the stage set.

THE STAGE: THREE FEMINIST PHILOSOPHIES OF SCIENCE

The stage set is provided by Sandra Harding, feminist philosopher of science from the University of Delaware.³ Harding is a friendly antagonist, but she also provides the setting for the drama by outlining the three basic approaches that feminists take in criticizing science:

1. feminist empiricism
2. feminist standpoint epistemology
3. feminist postmodernism (Harding 1986, 24–28)

1. *Feminist Empiricism.* Feminist empiricism sees the problem in terms of discrimination against women and their underrepresentation in the various scientific disciplines (African-Americans and other excluded social groups are generally included in this analysis). The methodology of science should be maintained, while gender biases should be examined and removed in science education and institutions, as well as in the definition, selection, and funding of research problems.

Harding and others argue, however, that these feminist reforms of scientific institutions through affirmative action for women and others can only be a brief resting place for the philosophically and politically minded. How can the core epistemological presumptions of science be maintained when empiricism cannot recognize its own failures within the actual practice of science? Feminism plus the same old empiricism does not provide an adequate analysis of, or corrective to, the problem of sexism within the biophysical and social sciences.

In the traditional discourse on scientific methodology, the empiricist assumption is that the social identity of the observer is irrelevant to the research project. It turns out, however, that being a European male of privilege in our society puts one at a distinct disadvantage in perceiving certain truths about human nature and nature's nature. So feminism that does not also question empiricism itself has a hard time under-

standing how science seems incapable of detecting its own androcentrism or of explaining why the feminist politicization of an apolitical methodology would actually improve scientific objectivity (Harding 1986, 162).

Is a patriarchal bias implicit in traditional scientific empiricism? And by implication, is it possible to detect an implicit racism and classism within traditional modes of scientific rationality?⁴ The actual historical practice of science points to many disturbing examples of sexist, racist, and classist complicities and culpabilities, in spite of the progressive pretensions of many scientists. This dark history of science tends to promote a further epistemological radicalization among feminists and others. So while many feminist philosophers of science would support increased opportunities for women and other excluded social groups in science education and institutions, few find affirmative action *per se* to be a sufficient reformation.

These feminist discourses about science are strikingly similar to contemporary feminist engagements with religious traditions. Feminist empiricism is parallel to feminist reform efforts within religious traditions and institutions that seek increased representation and more equitable sharing of spiritual and temporal power but do not seek to fundamentally question the tradition in itself. Many feminists, however, go far beyond these calls for affirmative action in religion by putting into question whole interpretative and spiritual traditions. So Harding leads us into a discussion of two other feminist approaches to science: feminist standpoint epistemology and feminist postmodernism.

2. *Standpoint Epistemology.* Feminist standpoint epistemology takes the analysis of gender and social power as its starting place. Proponents of this position believe that situatedness within a particular gender or disadvantaged social group produces *ipso facto* an epistemological advantage in interpreting truth, whether in terms of sociopolitical issues, religious beliefs, or the interpretation of biophysical and social phenomena. The objectivity of the oppressed is privileged in a process of constructing an emancipatory reformation of science, society, and religion.

An example of feminist standpoint epistemology is in the feminist appropriation of Freudian object-relation theory.⁵ Feminist object-relation theory provides a powerful critical tool for understanding sexism and provides a remedy for misogyny. It argues that because early childhood experiences of gratification and disappointment are so predominantly associated with female caregivers, men and women tend to grow up with a deep unconscious ambivalence about the female body as an object of intense gratification and intense disappointment. These depth-psychological feelings are sometimes expressed in the glorification of the female body,

for instance, in advertising and art. But the dark side of this female body worship is the extraordinary prevalence of sexual violence against women in our society. So the hatred and romanticization of womanhood are two sides of the same phenomenon arising from unequal gender responsibilities for child rearing. The solution to misogyny is in a more equitable sharing of parenting duties, particularly in early childhood, so that the inevitable ambivalences of gratification and disappointment that children experience can be more equitably shared by men and women, by male and female relational objects. Because girls grow up to be women and thus tend to identify with mothers and other female caregivers, they are more likely to perceive, and of course experience, the truth about misogyny within patriarchy. Little boys, however, in developing their gender identification, separate themselves from their mothers and female caregivers as they grow up, thus defining themselves in opposition to females. Boys grow up with both a deep longing for a return to the female and a rage against the female arising from this biosocially required separation. Men, therefore, are more likely to act out of their unconscious rage and lust toward female objects.

This truncated look at feminist object-relation theory helps to illustrate why women might have some epistemological advantage over men, at least insofar as understanding manifestations of sexism in science and religion is concerned. As in Hegel's discussion of the master-slave relationship and Marx's appropriation of it, those who occupy positions of power within social hierarchies are less likely to understand the real nature of those social relationships. Even the construction of the biophysical sciences, which are, after all, highly social, economic, and political activities, is profoundly influenced by these gender imbalances.

Within religious discourse, feminist standpoint epistemology privileges the perspective of women in interpreting scripture and history, constructing religious philosophy, and divining the nature of God. Liberation theology is an obvious example of standpoint epistemology from the perspective of the poor as applied to religion.

3. *Feminist Postmodernism.* Feminist postmodernism challenges the notion that there is a feminist standpoint that can be simply privileged in epistemological questions. There is no essential givenness of womanhood; rather there are multiplicities of women's lives and experiences. Nor is there any necessity, ipso facto, that those whose group identities place them among the socially disempowered, for instance, all women, will in fact interpret reality better. Indeed, the quest for a grand theory of oppression, like Marxism or feminist object-relation theory, is a kind of mimicking of the dominant epistemological tradition of modern science. Rather than create new versions of an epistemological approach that is implicitly sexist, racist, and classist, an empiricism of absolute

truth and privileged theories immaculately conceived, feminist postmodernism tries to undermine all grand theories and metanarratives.

Proponents of feminist postmodernism argue that the very epistemological presuppositions of science are imported by standpoint epistemology in a series of totalizing dualistic epistemological categories. Traditional scientific empiricism frames all knowledge debate in terms of a series of either-or categories:

- subject/object
- rational/irrational
- mind/body
- human/nonhuman
- animate/inanimate
- fact/fiction
- philosophical realism/idealism
- freedom/discipline
- grace/self-help
- free will/determinism
- justice/mercy
- planning/laissez-faire
- continuity/change
- universalism/particularism
- normal/abnormal
- male/female

Feminist postmodernism argues that standpoint epistemologies replicate the dysfunctions of scientific rationality through an inversion of these dualistic categories, so that in the name of undermining the oppressive structures of modern society, they will only create new oppressions to take their place.

In my exploration of the Haraway-Harding debate, I have a lot more to say about (2) standpoint epistemology and (3) postmodernism as applied to science and religion. For now let me conclude this section by noting that while Harding does not reject (1) feminist empiricism, she seems to be suggesting that the more interesting discussions in the philosophy and practice of science are between (2) standpoint epistemologies and (3) the postmodern challenges to the possibility of a universal perspective on truth. Harding intends, not a simple rejection of scientific empiricism, but a dissonant expansion of the problems involved in discovering and creating science. It is within the negotiation of these two perspectives that my protagonist, Donna Haraway, and her friendly antagonist, Sandra Harding, are locating themselves. So Harding has not only helped to define the setting for the story but is herself an important actor in the unfolding of the conundrum. The plot

involves an essay by Haraway, a critique by Harding, a rebuttal by Haraway, and a moral conclusion and postscript.

SCENE 1: A CYBORG MANIFESTO

Scene 1 opens in 1983–84 with papers that later became chapter 8 in Haraway's 1991 award-winning collection of essays, *Simians, Cyborgs, and Women*. Haraway spins "an ironic political myth" entitled "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century." She enters into the tradition of socialist and feminist critiques of science and technology within late capitalism and patriarchal society with a distinctly postmodernist radicality. Scientific representation of nature is presented in the strong social constructionist view as a mirror of power-knowledge contestations within human society. Technology is an important tool in these contestations. The types of science funded, the uses made of it, even the interpretation and creation of data, follow vectors of social power and control. There is indeed no clear distinction between science and technology, between knowledge and its applications. Planning for nuclear war, microelectronic sweatshops, growing poverty, new forms of marginalization and insecurity, especially for women, and the penetration of global capitalism are presented as a complex of problems encoded by and replicated in the philosophical discourse of science and modernity. Philosophy of science is then seen as an ideology that supports the continuation and expansion of global capitalism, militarism, and patriarchy.

Despairing at the magnitude of the problems and the resistance of these destructive systems to change, Haraway seeks a "wild card within a stacked deck" as a way to turn this apocalyptic nightmare into a utopian daydream that could sustain effective political engagement (Haraway 1991, 4). She finds this wild card in the transgression of sacrosanct boundaries of modernity and the construction of an emancipatory utopia for what are no longer mere humans. Humans have become, and are increasingly, cybernetic organisms, or *cyborgs* for short, through the marriage of machine and life. What is for many a repulsive vision of the automatization and destruction of humanity through a grid of mechanized domination and control becomes the occasion for a new manifesto and a postmodern envisioning of an emancipatory future. We are no longer *Homo sapiens* but have become *Homo cyborg*. Emancipation, then, must involve not merely the liberation of our imagined organic selves but also our constructed machine selves. Haraway's title implies that the *Communist Manifesto* is passé, in this Brave New World we now need a Cyborg Manifesto. Satire and science fiction are tools in this emancipatory struggle. Feminist science fiction is the charting of an emancipatory future where no man has gone before.

Her essay was a serious joke about a world racing toward destruction, as indeed it seemed to a great many back in 1983 and perhaps still does today. In 1983, you will recall, the United States was engaged in an enormous and financially ruinous weapons buildup, Pershing and cruise missiles were being deployed in Europe, and the Reagan administration had put forward its Strategic Defense Initiative, all of this in the face of intense opposition from citizens. In 1982 and 1983, the United States and its NATO allies experienced several of the largest public demonstrations in the history of their respective countries.

So out of a sense of desperation, Haraway turns to the *Cyborg Manifesto* as a way to undermine the ideological infrastructure of this global economic and cultural system. She begins by challenging three sacred boundaries of modernity: the differences between animal and human, between machine and life, and between physical and nonphysical. Haraway's study of primates leaves little doubt that the philosophical category distinctions that have separated man and beast are falling apart. Science makes us more a part of nature than we ever dreamed of being. At the same time, human artifacts also seem more like nature. The computer, among others, has a life of its own and seems more animate than living things seem in some of our scientific descriptions. Indeed, computer metaphors dominate scientific discourse about nature. Machines, Haraway argues, are extensions of our being. They are not other but an integral part of self.

The third transgression of sacred boundaries is that between the physical and the nonphysical. Here Haraway leaves the argument undeveloped, saying almost in passing, "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" (Haraway 1991b, 154-55). Here Haraway is referring to feminist critical studies of the "trash" romance literary genre, which argue that the voracious reading of these formulaic romance novels is an act of rebellion and escape by oppressed middle-class housewives.⁶ The implication is that the popularity of pop physics books about quantum mechanics and chaos theory can be seen as an act of rebellion by their mostly white male heterosexual readership. This rebellion against the epistemological stranglehold of scientific empiricism, however, is like reading romance novels in that it is primarily an escapist activity that leaves the dominant infrastructure of scientific ideology intact.

Haraway's failure to explore the breached boundary between the physical and nonphysical can be seen as an outgrowth of her postmodern aversion to grand theories. Such an exploration would certainly

have led her into the realm of metaphysics and metanarratives; but as we will see by the end of the story, she and we cannot avoid this swampy territory of conjecture and presupposition.⁷

Out of these blurred boundaries—human and animal, life and machine, and physical and nonphysical—Haraway constructs the cyborg as an ironic political myth to account for the fractured identities and to help mediate the similar fracturing of identities of actors within progressive movements for social change. “The recent history for much of the U.S. left and U.S. feminism has been a response to this kind of crisis by endless splitting and searches for a new essential unity” (Haraway 1991, 155). Haraway notes that the “struggle against unity-through-domination or unity-through-incorporation ironically not only undermines the justification for patriarchy, colonialism, humanism, positivism, essentialism, scientism, and other unlamented -isms, but *all* claims for an organic or natural standpoint” (Haraway 1991, 157).

Marxist dialectical materialism and feminist object-relation theory are examples of how these critical theories undermine their own epistemological strategies. Feminist object-relation theory, which I introduced above, presents gender as socially constructed, thus pulling the rug out from under biophysical accounts of any essentialist notion of femaleness or womanhood. What is naturally ordained by human sexuality or is socially constructed by contingent social processes of gender formation can no longer be distinguished. Similarly, Marxist moves to critique ideology and false consciousness as by-products of a particular economic base logically lead to a circularity of critique as Marxist theory turns back on itself to deconstruct its own base.⁸

All social, historical, and critical theory tends toward this circularity and philosophical solipsism. I would argue that religion is more familiar with this philosophical territory than science. Many in the biophysical sciences are like religionists of centuries past in their confrontation with the Enlightenment.⁹ History, anthropology, psychology, sociology, gender studies, and literary theory have long been conversation partners for serious religious thought and cultural inquiry. Once perceived as hostile to a committed life of faith, modern and postmodern religious thought has turned critical theory into a helpmate in creating deep and intellectually vibrant religious belief. The fact that there are invisible social and symbolic processes that corrupt and distort our understanding of the Divine, unconscious processes that critical theory can help to expose and demystify, has become an occasion to reaffirm human finitude and humbleness before the Divine. In most faith traditions, such humility is after all prescribed. The *Via Negativa* of Christianity, the *Neti Neti* of Hindu-

ism, and the Sunyata of Buddhism are all rich affirmations of human epistemological finitude before the Ultimate.

In recent decades, these tools of critical theory have been turned on the biophysical sciences in a great flurry of books and articles with the goal of demystifying and unmasking some of the invisible social and symbolic processes that are part of the production and corruption of scientific knowledge. Haraway is an excellent example of this movement. Like many postmodernists, she has inherited from modernity its philosophical rejection of religion as dangerous irrationality. Haraway frequently refers to the "God-trick" as an unthinking flight from responsible discourse.¹⁰ Indeed, she equates the "God-trick" to the epistemological claims of traditional empiricism. By postulating the ability to see like a God or interpret for a God from a position transcendent and outside of lived experience, certain humans flee from the messy responsibilities of argumentation and decision making. The "God-trick" is seen by Haraway as an avoidance of accountability, which it certainly can be. By the end of this story, as we will see, Haraway will bring metaphysics and religion back into center stage of this postmodern morality play.

Let us resume with Haraway's reflections on the crisis of meaning and values caused by the deconstructive self-reflexivity of critical theory. Haraway wonders if perhaps the cyborg myth provides a way out of the postmodern relativistic conundrum that results from critical theory's ability to deconstruct others and itself. Haraway asks: "What kind of politics could embrace partial, contradictory, permanently unclosed constructions of personal and collective selves and still be faithful, effective—and, ironically, socialist-feminist?" (Haraway 1991, 157).

The opportunity presents itself first in the dystopian dimensions of advanced capitalism in the late twentieth century. At this apocalyptic moment, when struggles for dominance in political-economic restructuring have reached global proportions, when the end of man (and woman) becomes a figurative and literal problem, the complex presents itself first as the nightmare of what Haraway calls the "informatics of domination." This dystopia is seen in the production, reproduction, entertainment, surveillance, and disappearance of human underclasses within a new global hegemony.¹¹

Haraway enacts a metaphorical inversion invoking a new fundamental image for the body politic, the cyborg, which she explores with the help of feminist science fiction. Haraway's cyborg utopia of emancipation helps her build her case against the totalizing discourses of progressive critical theory. The cyborg undermines notions of natural essence and absolutist epistemologies. The cyborg image promotes a responsible and skillful engagement with science and technology that does not fall prey to the reactionary romanticism and demonization of certain forms of

feminism and environmentalism. Our machines are extensions of ourselves; they are not other. We can take pleasure in these kinships as well as hold ourselves and others accountable for our machine and social embodiments.

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. (Haraway 1991, 181)

SCENE 2: SANDRA HARDING'S CHALLENGE

Thus ends scene 1 of this drama and so enters the antagonist, Sandra Harding, with her 1986 award-winning book, *The Science Question in Feminism*. Harding explores and rejects Haraway's postmodern turn as potentially ineffectual because of its tendency toward philosophical and moral relativism. Harding warns of the dangers of vacating the discourse of objectivity. She writes:

In my view, Haraway's analysis is weakened by its still excessive containment within Marxist epistemological assumptions. This can be seen in her not so hidden assumptions that we can, indeed, tell "one true story" about the political economy; that in principle developmental psychologies can make no contributions to our understandings of the regularities and underlying causal tendencies of historical institutions; that we begin to exist as distinctive social persons only when we get our first paycheck or, if we are women, when we first begin adult forms of trading sexual favors for social benefits. (Harding 1986, 194)

So Harding is critical of Haraway's strong social constructionism and says that this postmodernism is in fact contiguous with the grand theorizing that Haraway criticizes in others. While rejecting moralism and vanguard politics, Haraway espouses them. Harding questions whether we should necessarily reject such grand theorizing and organizing. She wants to maintain and improve a notion of objectivity that is strengthened by feminist analyses, not undermined. Harding writes, "The political power of science and its modernist epistemological strategies cannot be left in the hands of those who currently direct public policy, while we theorists dream of a world different from the one that co-opts the 'intelligentsia' into the activity of such 'harmless' dreaming. . . . After all, it is not in the Pentagon or General Motors that one hears of hopes for postmodernism!" (Harding 1986, 195). Harding is not willing to throw the baby out with the bathwater; she wants to preserve and strengthen the epistemological notion of objectivity, and objectivity that is made stronger by the addition of critical theory to the biophysical sciences.

SCENE 3: SITUATED KNOWLEDGES

I will stop there with Harding and leave her differences with Haraway overstated and underdeveloped for the sake of brevity and dramatic impact. I turn now to scene 3 in which Haraway offers her rebuttal to Harding's criticism of the Cyborg Manifesto in a 1987 paper which is now chapter 9 of her 1991 collection, *Simians, Cyborgs, and Women*. The chapter is entitled "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective." It would be unfortunate to simply read the "Cyborg Manifesto" and neglect the "Situated Knowledges" essay, because the epistemological argument in the latter provides a new metatheory of science which transcends the realism-social constructionism debates that dominate this field. Indeed, I will argue that my protagonist's second essay necessarily integrates religion back into the field of science but with profound implications for both of these estranged bedfellows.

In "Situated Knowledges" Haraway accepts Harding's critique (without giving up her ironic and uncompromising proses). Haraway notes that "feminists have both selectively and flexibly used and been trapped by two poles of a tempting dichotomy on the question of objectivity" (Haraway 1991, 183). Haraway recognizes the relativistic tendencies of this postmodern turn in philosophy. She finds that she is simultaneously attracted to and repulsed by the strong social constructionist argument. Similarly, she wants to have robust critical theory but is fearful of the essentialist tendencies in such theories. Haraway accepts Harding's proposition that "we" need a more robust notion of reality than that afforded by paranoia and cynicism or by desperate lurches of blind faith and will to power. Haraway writes:

So, I think my problem, and "our" problem is how to have *simultaneously* an account of radical historical contingency for all knowledge claims and knowing subjects, a critical practice for recognizing our own "semiotic technologies" for making meanings, and a no-nonsense commitment to faithful accounts of a "real" world, one that can be partially shared and friendly to earth-wide projects of finite freedom, adequate material abundance, modest meaning in suffering, and limited happiness. . . . *All* components of the desire are paradoxical and dangerous, and their combination is both contradictory and necessary. . . . Immortality and omnipotence are not our goals. But we could use some enforceable, reliable accounts of things not reducible to power moves and agnostic, high status games of rhetoric or to scientific, positivist, arrogance. (Haraway 1991, 187-88)

Haraway's answer to her quandary and ours is to reexamine the metaphor of vision within the discourse of modernity and to insist on the partiality and embodiment of all forms of vision, rather than the myth of a universal vision of a transcendent God or a privileged epistemology. Haraway seeks an embodied doctrine of objectivity that

views the knowing subject as locatable within the field of phenomena. Knowledge is necessarily situated. The illusion of infinite and universal vision is a dangerous flight from reality.

The sensory capacity of vision is not merely organic; it can be supplemented by all manner of technological and theoretical apparatus. Vision always has receptive and projective filters and presuppositions. There is no pure and innocent vision. Improved vision and depth perception, however, come with binocular and multiocular eyesight. The monocular seeing of a one true way of knowing, be it scientific or religious, is a dangerous monster. What we need are multiple and contingent modes of examination, multiple theoretical models.

Haraway's reconstruction of the metaphor of vision as a way to resurrect an epistemology of objectivity gives us interdisciplinary studies and multiculturalism writ large, but it also claims to offer moral criteria for distinguishing between better and worse modes of seeing. Not all knowing is equal. Indeed, as actor-knowers within what I call a social-biophysical field theory, those who are located in dominant roles are less likely to have an enlarged vision of stronger, more comprehensive objectivity.¹² The locations of the disenfranchised and disempowered are more likely to provide a reliable understanding and explanation of social-biophysical phenomena; but such increased probability of truth perception cannot simply be translated as an epistemological necessity.

Haraway further argues that our location as points of knowing within the phenomenal world is not simply given but also can be chosen through positioning strategies and techniques. We can position ourselves epistemologically to see from the perspectives of the oppressed or from the position of an electron. Using critical theory in social analysis is not unlike creating the tools and positioning ourselves to see through the lens of a telescope or microscope. Haraway writes:

There is a premium on establishing the capacity to see from the peripheries and the depths. But here lies a serious danger of romanticizing and/or appropriating the vision of the less powerful while claiming to see from their positions. To see from below is neither easily learned nor unproblematic, even if "we" [feminists] "naturally" inhabit the great underground terrain of subjugated knowledges. The positionings of the subjugated are not exempt from critical re-examination, decoding, deconstruction, and interpretation. . . . The standpoints of the subjugated are not "innocent" positions. On the contrary, they are preferred because in principle they are least likely to allow denial of critical and interpretative core of all knowledge. They are savvy to modes of denial through repression, forgetting and disappearing acts—ways of being nowhere while claiming to see comprehensively. (Haraway 1991, 191)

Haraway makes one last move in her metatheoretical reconstruction of social and scientific knowing, again one that I will extend by implication into religious discourse as well. There is a continuing discomfort

that she and many feminists have with the traditional language of objectivity, because the object of knowledge is generally assumed to be passive and inert before the normative gaze of the male subject. Women tend to have a rather different experience from men's of what it means to be gazed at, biophysically objectified, visually undressed, physically categorized, and normatively compartmentalized by the "objective" studied vision of men.

The paradigmatic example of this feminist dis-ease that Haraway explores is the historical feminist discomfort with the notion of "sex" before the "eyes" of biological determinism. In the nature-nurture discourse about what is sex, that is, biological, and what is gender, that is, social, feminists have tended to stay away from the nature-sex-biological-determinism side and emphasize instead the nurture-gender-social-construction side of the debate. Here again the sex-gender, nature-nurture, either-or presuppositions of scientific empiricism dictate the terms of debate for feminist philosophers of science. Haraway thinks we can do better than viewing the sexual nature of our bodies *either* as simply biologically determined *or* as blank pages for social inscription (social inscription which is typically disguised as biological determinism). Haraway writes critically of her own social constructionist tendencies:

Nature is only the raw material of culture, appropriated, preserved, enslaved, exalted, or otherwise made flexible for disposal by culture in the logic of capitalist colonialism. . . . Sex is "resourced" for its representation as gender, which "we" can control. It has seemed all but impossible to avoid the trap of an appropriationist logic of domination built into the nature/culture binarism and its generative lineage, including the sex/gender distinction. (Haraway 1991, 198)

A kind of resolution of this tension is achieved if we come to understand the objects of knowledge not as passive and inert but as self-animated agents. Knowledge creation within a field of social-biophysical phenomena, locations, and positionings is always a conversational enterprise between asymmetrical subjects. Epistemology then is ethical discourse between phenomena. Science cannot step outside of the phenomenal but is itself a phenomenon in studied conversation with other phenomena. Haraway here makes the metaphysical move in the direction of a Whiteheadian notion of subjectivity expressed by all beings. Haraway writes:

The point is paradigmatically clear in critical approaches to the social and human sciences, where the agency of people studied itself transforms the entire project of producing social theory. Indeed, coming to terms with the agency of the "objects" studied is the only way to avoid gross error and false knowledge of many kinds in these sciences. . . . A corollary of the insistence that ethics and politics covertly or overtly provide the basis of objectivity in the sciences as a heterogeneous whole, and not just in the social sciences, is granting the status of agent/actor to the "objects" of the world. (Haraway 1991, 198)

So Haraway affirms Harding's thesis that "a critical and self-reflective social science should be the model for all sciences" (Harding 1986, 44). What we have now for a philosophy of science is a kind of social-biophysical hermeneutical conversation in which the research-theorist-institution always is present to the interpretation and consequences of a particular project.

We are not used to envisioning the biophysical objects of scientific knowledges as agents with whom we are in an asymmetrical power-knowledge conversation, but it is a necessary requirement of the reembodyment of vision within nature as situated knowledges. "Accounts of a 'real' world do not, then, depend on a logic of 'discovery,' but on a power-charged social relation of 'conversation.' The world neither speaks itself nor disappears in favor of a master decoder. The codes of the world are not still waiting only to be read. The world is not raw material for humanization. . . . The world encountered in knowledge projects is an active entity" (Haraway 1991, 198).

Epistemology is about the translation of languages of other beings and engaging them in careful conversation. But as with human conversations, acknowledging the subjectivity of all beings amplifies our awareness of the unsettling reality of encountering novelty, surprise, and wit in our encounters with culture and nature, sex and gender, and our subject/object selves and other subject/objects. Haraway suggests that the Coyote-Trickster character from American Southwest Indian culture provides a metaphor for this dynamic in which "we give up mastery but keep searching for fidelity, knowing all the while we will be hoodwinked" (Haraway 1991b, 199). Situated knowledges account for and expect surprise and irony at the core of metaphysics and epistemology, because phenomena as subject/agents will not simply conform to the epistemological gaze that seeks to control, manipulate, categorize, and predict. There is wildness and indeterminacy in the human and the nonhuman alike.

THE MORAL OF THE STORY

And here is an irony upon ironies—that Donna Haraway in a backwards kind of way has thought herself and us from the endless deconstruction of metanarratives and the contingent play of difference into the weaving of a grand new yarn. In essence, Haraway is arguing for the resurrection of a new Unity of Science project, which provides a workable epistemology for *all* of the social and biophysical sciences.

In this image of a social-biophysical field theory, I imagine that we are vectors of knowing/acting like boats navigating the open ocean. We must continuously take and retake multiple bearings to plot our movements on the water. The bearings that we take to plot our course are not

fixed and permanent landmarks or celestial points; they are other boats like us on the ocean; they are themselves other positions of knowing/acting with whom we relate. Some of these boats are relatively stable; some travel in groups; some are so enormous that they create a wake that makes it difficult to sail on, let alone take a bearing. Other boats by their size and speed and proximity and internal designs can influence our instruments of navigation as we influence them. The social and biophysical phenomena on this epistemological ocean also are taking their own bearings and adjusting their course off our locations. As we study other boats and other beings, we begin to piece together patterns in our motion relative to others. We can even imagine what it might look like from other perspectives from far above or from some fixed vantage point, but we should never forget that we are ourselves beings afloat on this ocean of space and time. It is helpful to pretend that we might get out of our boats and imagine the looks of the ocean from some other perspective, but it would be dangerously self-deceptive to forget that we belong to the ocean as one phenomenon among many.

If this metaphor for Haraway's epistemology of situatedness and positioning does not work for you, there is a much older and more tested metaphor in the Jainist-Buddhist fable of the blind men and the elephant. Each blind man conceives of the elephant as radically different through his limited perception. In the parable, there is no question but that the elephant is real, that reality is real, and for that matter, that the Divine is real, but that we are functionally blind. We experience the elephant differently, but when we combine our experiences with the experiences of others, we get a fuller, more robust picture of the true nature of the elephant. The task is to be true to your own wisdom tradition, your own knowledge discipline, your own intuitions and experiences, while joining those ways of knowing and acting to disparate voices of others. In these epistemological negotiations, it would seem that we especially need to listen to the voiceless voices of those who are ignorable because of the lack of enough power to demand our attention, that is, if we really want to understand the fuller nature and meaning of the elephant before us.

It is a welcomed feat of intellectual legerdemain that Donna Haraway has accomplished in this second essay. She has offered us a very usable metaphysics and epistemology that avoids the vexing category distinctions and dualisms of traditional scientific empiricism. She rescues the notion of objectivity by grounding *all* knowing in a new appreciation of our finitude and partiality. We would be well served if Haraway's epistemological yarn were the myth of acculturation in teaching and practicing.

But finally, Haraway's epistemology of science also destroys the sacrosanct boundaries that separate science from nonscience, indeed that separate science from religion, for some the worst nonscience of all. There no longer is a basis in an epistemology of location and positioning to exclude religion as a credible location and positioning in truth discourse. The Enlightenment breach between science and religion has fallen. There is no logic of necessity which distinguishes scientific knowledge from religion, though we can argue pragmatically that certain models better fit the dynamics of certain social-biophysical situations. There are reasons and unreasons *and* other reasons. Truth seeking and truth doing require the integration of as many perspectives and vectors and disciplines and cultures as possible.¹³ The marginalization of religion within the modern secular university is an ideological and power move by human institutions and individuals; it is not about epistemology.

Haraway's Coyote Trickster has played a God-trick on the academe. And as she warns us, there is nothing innocent in this play of words and ideas. Indeed, in recently reading an article by Phillip E. Johnson, the author of a biblical creationist book entitled *Darwin on Trial* (1991) and *Reason in the Balance: The Case Against Naturalism in Science, Law, and Education* (1995a) I was shocked to see these postmodern arguments recycled as an apology for an exclusivist and dogmatic assertion of a particular brand of Christian fundamentalism and social ethics. Johnson writes in the faculty newsletter of Campus Crusade for Christ: "For government and educational purposes today, science is defined as proceeding from naturalistic premises, and science is given exclusive authority to portray objective reality. This means scientific naturalism is effectively the established religious philosophy of America" (Johnson, 1995b, 5).

How different is this from the feminist philosophies of science that we just explored in Harding and Haraway? The political agendas are profoundly antagonistic, but the philosophical arguments are remarkably congruent. Haraway, however, has warned us that as we seek by the force of history and science to move beyond the either-or discourses of subject/object, we can expect that "*All* components of the desire are paradoxical and dangerous, and their combination is both contradictory and necessary" (Haraway 1991, 188). The unity of sciences and religions is a hazardous but essential intellectual, moral, and political project for our time. This union makes an unlikely couple out of Haraway and Johnson, but perhaps with years of marital therapy and struggle, we can make something good out of this marriage after all.

So Haraway has given us the grandest synthesis of all. And the moral of the story would please Thomas Aquinas, the heretic and saint. Sci-

ence and religion, reason and faith, belong together in mutual confirmation. Aquinas, however, also would be overwhelmed by the expounding of diversities in a universe of multiple rationalities, multiple faiths, multiple locations, and infinite possible vectors of epistemological positionings. The moral of the story in one sentence is that if we travel far enough, all roads still lead to Rome.¹⁴

POSTSCRIPT

Now I have a brief postscript to this story. In my title I mention "Cyborgs, Tricksters, and Hermes," so now it is incumbent on me to draw Hermes, the messenger, into this story. Hermes was himself a powerful trickster in Greek mythology. And of course, it is from Hermes, the messenger of gods and mortals alike, that we derive the practice of hermeneutics. The point here is to link the trickster to the Greek tragic, to invert Haraway's ironic prose once more, and to note that behind the ironic play of Coyote and Hermes and the other angels is also a world of human tragedy.

The trickster is perhaps someone to fear as well as laugh at and with. The warning is clear. Beware of unintended consequences in our hermeneutical conversations with nature and culture. Beware of our unconscious tendencies to replicate that which we oppose. Beware of Hermes and Coyote and the other angels as they transgress and confuse the boundaries of identities with which we try to order and construct science, society, self, and sacred.

Haraway's cyborg myth is an important reminder that the stakes are high. We are at a moment of evolutionary transition of enormous proportion, and not simply symbolically. Exponential growth in human population and consumption patterns in the last century threatens to overwhelm the earth's systemic integrity and carrying capacity. The contradiction of our time is that even as technology and organization have dramatically improved the breadth and reach of human life, they also have created new and greater insecurities and "dis-eases." The paradox of prosperity is that even as living standards have increased to undreamed-of bounties, poverty also has grown on a mind-numbing scale. The incongruity of the global village is that not only can we communicate at a distance, we also can do harm to each other across great range with the ruthless efficiency of modern weaponry. For perhaps a third of the world's human population, the feared collapse of cultures and populations is not merely an abstract possibility. People must engage in a daily struggle to survive malnourishment, disease, unemployment, cultural dislocation, and the social unrest that accompanies such deprivations. Half of the world's six thousand languages are expected to go extinct in the next generation. Vast ecosystems have been destroyed, species are going extinct, and the entire planet is in

the midst of a technological taming, a greed-driven domestication of biophysical systems, in what can be understood as a new chapter in the evolutionary epic of the planet. Perhaps future paleontologists will look back on this as the end of the Cenozoic era, the incredible florescence of biodiversity and complexity that has occurred over the 67 million years since the mass extinction of the dinosaurs. Perhaps there will be no future paleontologists to look back at all. And those future generations that do look back on us may look on us with great disdain because we have burdened them with a polluted and vastly depleted planet on which to live.

So this is a time for apocalyptic nightmares as well as utopian daydreams and ironic tall stories. Securing the future well-being of this blue-green planet and its marvelous people is a task that requires the combined efforts and wisdoms of *all* of our sciences and religions. We may hope that Hermes and Coyote and the other angels will come to our aid by playing wild cards to help us reinvent ourselves in this evolutionary crisis. We may hope that the very tension between hope and mounting desperation will be a productive and creative space for human, cybernetic, and biological adaptation in the late twentieth century at the end of the Cenozoic era. But we will not know for certain. The epistemological challenge of situated sciences and of situated religions seems to suggest that we should further explore the depths and the margins of that very tension, and that our laughter and our tears will be further embodiments and guides to our truth seeking in the coming age.

NOTES

1. It was ironic that Thomas Kuhn's book *The Structure of Scientific Revolutions* (1962), which brought historical critical methods to the study of the biophysical sciences, was itself published as one of a series of books entitled *Foundations of the Unity of Science*, which formed part of a multivolume *International Encyclopedia of Unified Science*. Kuhn's work helped to relativize logical positivism and other meta-epistemological approaches to biophysical phenomena.

For an excellent anthology on philosophy of science, see Boyd and Richerson (1991).

2. Alisdair MacIntyre, in his *Gifford Lectures* (1990), argues for a resurrection of a science-and-religion synthesis along Thomist lines after rejecting modernism and postmodernism. The trajectory of Haraway's argument is through postmodernism to a new epistemological configuration that invites this Thomist synthesis from a very different perspective than that of MacIntyre.

3. Ann Milliken Pederson, in an essay entitled "Instability and Dissonance: Provocations from Sandra Harding" (1995), presents a very similar argument about the relevance of feminist philosophies of science to a renewal of a science-and-religion dialogue. Just how "friendly" Sandra Harding is as "antagonist" to Donna Haraway can be seen in Pederson's conclusion. Pederson writes in her *Zygon* essay: "The current feminist epistemologies attempt to broaden, enhance, and enrich the ways of knowing the world and put that knowledge to use for the benefit of the world. This view diverges from the Enlightenment tradition, which claims that reason is universal and impartial. Feminist standpoint theory tries to avoid this polarity in epistemological categories. Standpoint theory attempts to include and value all diverse experiences in order to remain fluid and resistant" (Pederson 1995, 371).

4. There has recently been a lot of attention to issues of race, class, and culture in the sciences. Sandra Harding has assembled an excellent anthology that helps explore such issues. See Harding (1993).

Cornel West, an African-American philosopher at Harvard, makes this argument explicitly in some of his works. He writes that "the very structure of modern discourse at its inception produced forms of rationality, scientificity, and objectivity as well as aesthetics and cultural ideals which require the constitution of the idea of white supremacy." West is not merely referring to the historical record of modern science's complicity with colonial domination over non-European peoples through a long series of studies that "measured" the inferiority of Africans, women, and others. He argues that the very structure of scientific thought, with its emphasis on observation, measurement, and classification, in combination with classical Greek aesthetic ideals of the Enlightenment, "secretes" racism (West 1982, 47-49). In another book, West notes that: "this kind of demythologizing of the natural sciences is of immense importance for literary critics, artists, and religious thinkers, who have been in retreat and on the defensive since the Enlightenment. And the sparks generated by such a novel viewpoint in our technocratic culture are only beginning to fly" (West 1989, 203).

5. See Dinnerstein (1976) and Chodorow (1978).
6. See Radway (1984).
7. Elsewhere I argue that Haraway is moving toward the process metaphysics of Alfred North Whitehead and his interpreters. See Grassie (1994).
8. The circularity of Marxist critique has been examined by numerous thinkers. For an excellent overview and interpretation thereof, see Ricoeur (1986).
9. See Gross and Levitt (1993) for a rebuttal to Harding and other social constructionists.
10. Haraway's discussion of the "God-trick" is mostly found in her second essay, "Situated Knowledges." In a later essay, Haraway delves more into religious matters with a piece that looks at Jesus of Nazareth as a trickster-figure. See Haraway (1992).
11. Perhaps these cultural, economic, and environmental problems will be every bit as dangerous as nuclear war, but much harder to recognize because their reshaping of the planet and human expectations is gradual. For a discussion of these problems, see Daly and Cobb (1989), McFague (1993), and Welch (1990).
12. The term *strong objectivity* is actually Sandra Harding's contribution. See Harding (1991, 138-63).
13. For a ground-breaking discussion of the problem of radical pluralism in religions and rationalities, see Krieger (1991).
14. There is really no reason to privilege Rome here, except to use this cliché. Benares, Jerusalem, Mecca, the Black Hills, or any number of sacred spaces and centers also qualify as points of reference in this social biophysical hermeneutical conversation.

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