

Ground for a Specifically Feminist Historical Materialism', in Sandra Harding and Merrill Hintikka (eds.), *Discovering Reality: Feminist Perspectives on Epistemology, Metaphysics, Methodology and the Philosophy of Science* (Dordrecht, Neth.: Reidel, 1983); Hilary Rose, 'Hand, Brain and Heart: A Feminist Epistemology of the Natural Sciences', *Signs*, 9/1 (1983); and my discussion of these writings in ch. 6 of *The Science Question in Feminism* (Ithaca, NY: Cornell University Press, 1986). Alison Jaggar also developed an influential account of standpoint epistemology in ch. 11 of *Feminist Politics and Human Nature* (Totowa, NJ: Rowman & Allenheld, 1983). For more recent developments of standpoint theory see Patricia Hill Collins, chs. 10 and 11 of *Black Feminist Thought: Knowledge, Consciousness and the Politics of Empowerment* (Boston: Unwin Hyman, 1990) and chs. 5, 6, 7, and 11 of my *Whose Science? Whose Knowledge? Thinking from Women's Lives* (Ithaca, NY: Cornell University Press, 1991).

4. Helen E. Longino, *Science as Social Knowledge* (Princeton: Princeton University Press, 1990); Lynn Hankinson Nelson, *Who Knows: From Quine to a Feminist Empiricism* (Philadelphia, Pa.: Temple University Press, 1991).
5. Marcia Millman and Rosabeth Moss Kanter, 'Editors' Introduction' to *Another Voice: Feminist Perspectives on Social Life and Social Science* (New York: Anchor Books, 1975), vii. (Repr. in S. Harding (ed.), *Feminism and Methodology* (Bloomington, Ind.: Indiana University Press, 1987.))
6. Cf., for example, Edward Said, *Orientalism* (New York: Pantheon Books, 1978); Samir Amin, *Eurocentrism* (New York: Monthly Review Press, 1989); Monique Wittig, 'The Straight Mind', *Feminist Issues*, 1/1 (1980); Marilyn Frye, *The Politics of Reality* (Trumansburg, NY: Crossing Press, 1983); and Charles Mills, 'Alternative Epistemologies', *Social Theory and Practice*, 14/3 (1988).
7. Hartsock, 'The Feminist Standpoint', 159.
8. See, for example, *The Conceptual Practices of Power: A Feminist Sociology of Knowledge*, 54.
9. Some women are assigned more of this work than others, but even wealthy and aristocratic women with plenty of servants are left significantly responsible for such work in ways their brothers are not.
10. Of course body work and emotional work also require head work—contrary to the long history of sexist, racist, and class-biased views. See, for example, Sara Ruddick, *Maternal Thinking* (New York: Beacon Press, 1989).
11. In response to the editors' request, brief summaries of this section and the next have been substituted for twelve pages of the original essay, to which readers are referred for a fuller account of these issues.
12. The following arguments are excerpted from pp. 143–8 of my *Whose Science? Whose Knowledge?*
13. Quoted in Werner Van den Daele, 'The Social Construction of Science', in E. Mendelsohn, P. Weingart, and R. Whitley (eds.), *The Social Production of Scientific Knowledge* (Dordrecht, Neth.: Reidel, 1977), 34.
14. David Mura puts the point this way in 'Strangers in the Village', in Rick Simonson and Scott Walker, (eds.), *The Graywolf Annual Five: Multi-cultural*

Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective

Donna Haraway

Academic and activist feminist inquiry has repeatedly tried to come to terms with the question of what *we* might mean by the curious and inescapable term 'objectivity'. We have used a lot of toxic ink and trees processed into paper decrying what *they* have meant and how it hurts *us*. The imagined 'they' constitute a kind of invisible conspiracy of masculinist scientists and philosophers replete with grants and laboratories. The imagined 'we' are the embodied others, who are not allowed *not* to have a body, a finite point of view, and so an inevitably disqualifying and polluting bias in any discussion of consequence outside our own little circles, where a 'mass'-subscription journal might reach a few thousand readers composed mostly of science haters. At least, I confess to these paranoid fantasies and academic resentments lurking underneath some convoluted reflections in print under my name in the feminist literature in the history and philosophy of science. We, the feminists in the debates about science and technology, are the Reagan era's 'special-interest groups' in the rarified realm of epistemology, where traditionally what can count as knowledge is policed by philosophers codifying cognitive canon law. Of course, a special-interest group is, by Reaganoid definition, any collective historical subject that dares to resist the stripped-down atomism of Star Wars, hypermarket, postmodern, media-simulated citizenship.

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It has seemed to me that feminists have both selectively and flexibly used and been trapped by two poles of a tempting dichotomy on the question of objectivity. Certainly I speak for myself here, and I offer the speculation that there is a collective discourse on these

argument for *all* forms of knowledge claims, most certainly and especially scientific ones.¹ According to these tempting view, no insider's perspective is privileged, because all drawings of inside-outside boundaries in knowledge are theorized as power moves, not moves toward truth. So, from the strong social constructionist perspective, why should we be cowed by scientists' descriptions of their activity and accomplishments; they and their patrons have stakes in throwing sand in our eyes. They tell parables about objectivity and scientific method to students in the first years of their initiation, but no practitioner of the high scientific arts would be caught dead *acting on* the textbook versions. Social constructionists make clear that official ideologies about objectivity and scientific method are particularly bad guides to how scientific knowledge is actually *made*. Just as for the rest of us, what scientists believe or say they do and what they really do have a very loose fit.

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From this point of view, science—the real game in town—is rhetoric, a series of efforts to persuade relevant social actors that one's manufactured knowledge is a route to a desired form of very objective power. Such persuasions must take account of the structure of facts and artefacts, as well as of language-mediated actors in the knowledge game. Here, artefacts and facts are parts of the powerful art of rhetoric. Practice is persuasion, and the focus is very much on practice. All knowledge is a condensed node in an agonistic power field. The strong programme in the sociology of knowledge joins with the lovely and nasty tools of semiology and deconstruction to insist on the rhetorical nature of truth, including scientific truth. History is a story Western culture buffs tell each other; science is a contestable text and a power field; the content is the form. Period.

So much for those of us who would still like to talk about *reality* with more confidence than we allow to the Christian Right when they discuss the Second Coming and their being raptured out of the final destruction of the world. We would like to think our appeals to real worlds are more than a desperate lurch away from cynicism and an act of faith like any other cult's, no matter how much space we generously give to all the rich and always historically specific mediations through which we and everybody else must know the world. But the further I get in describing the radical social constructionist programme and a particular version of postmodernism, coupled with the acid tools of critical discourse in the human sciences, the more nervous I get. The imagery of force fields,

of moves in a fully textualized and coded world, which is the working metaphor in many arguments about socially negotiated reality for the postmodern subject, is, just for starters, an imagery of high-tech military fields, of automated academic battlefields, where blips of light called players disintegrate (what a metaphor!) each other in order to stay in the knowledge and power game. Technoscience and science fiction collapse into the sun of their radiant (ir)reality—war.² It shouldn't take decades of feminist theory to sense the enemy here. Nancy Hartsock got all this crystal clear in her concept of abstract masculinity.³

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Some of us tried to stay sane in these disassembled and dissembling times by holding out for a feminist version of objectivity. Here, motivated by many of the same political desires, is the other seductive end of the objectivity problem. Humanistic Marxism was polluted at the source by its structuring theory about the domination of nature in the self-construction of man and by its closely related impotence in relation to historicizing anything women did that didn't qualify for a wage. But Marxism was still a promising resource as a kind of epistemological feminist mental hygiene that sought our own doctrines of objective vision. Marxist starting points offered a way to get to our own versions of standpoint theories, insistent embodiment, a rich tradition of critiquing hegemony without disempowering positivisms and relativisms and a way to get to nuanced theories of mediation. Some versions of psychoanalysis were of aid in this approach, especially anglophone object relations theory, which maybe did more for US socialist feminism for a time than anything from the pen of Marx or Engels, much less Althusser or any of the late pretenders to sonship treating the subject of ideology and science.

Another approach, 'feminist empiricism', also converges with feminist uses of Marxian resources to get a theory of science which continues to insist on legitimate meanings of objectivity and which remains leery of a radical constructivism conjugated with semiology and narratology.⁴ Feminists have to insist on a better account of the world; it is not enough to show radical historical contingency and modes of construction for everything. Here, we, as feminists, find ourselves perversely conjoined with the discourse of many practising scientists, who, when all is said and done, mostly believe they are describing and discovering things *by means of* all their constructing and arguing. Evelyn Fox Keller has been particularly insistent on this fundamental matter, and Sandra Harding calls the goal

of these approaches a 'successor science'. Feminists have stakes in a successor science project that offers a more adequate, richer, better account of a world, in order to live in it well and in critical, reflexive relation to our own as well as others' practices of domination and the unequal parts of privilege and oppression that make up all positions. In traditional philosophical categories, the issue is ethics and politics perhaps more than epistemology.

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 that is friendly to earth-wide projects of finite freedom, adequate material abundance, modest meaning in suffering, and limited happiness.

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 Natural, social, and human sciences have always been implicated in hopes like these. Science has been about a search for translation, convertibility, mobility of meanings, and universality . . . There is, finally, only one equation. That is the deadly fantasy that feminists and others have identified in some versions of objectivity, those in the service of hierarchical and positivist orderings of what can count as knowledge. That is one of the reasons the debates about objectivity matter, metaphorically and otherwise. Immortality and omnipotence are not our goals. But we could use some enforceable, reliable accounts of things not reducible to power moves and agonistic, high-status games of rhetoric or to scientific, positivist arrogance. This point applies whether we are talking about genes, social classes, elementary particles, genders, races, or texts; the point applies to the exact, natural, social, and human sciences, despite the slippery ambiguities of the words 'objectivity' and 'science' as we slide around the discursive terrain. In our efforts to climb the greased pole leading to a usable doctrine of objectivity, I and most other feminists in the objectivity debates have alternatively, or even simultaneously, held on to both ends of the dichotomy, a dichotomy which Harding describes in terms of successor science projects versus postmodernist accounts of difference and which I have sketched in this essay as radical constructivism versus feminist critical empiricism. It is, of course, hard to climb when you are holding on to both ends of a pole, simultaneously or alternatively. It is, therefore, time to switch metaphors.

 THE PERSISTENCE OF VISION

I would like to proceed by placing metaphorical reliance on a much maligned sensory system in feminist discourse: vision. Vision can be good for avoiding binary oppositions. I would like to insist on the embodied nature of all vision and so reclaim the sensory system that has been used to signify a leap out of the marked body and into a conquering gaze from nowhere. This is the gaze that mythically inscribes all the marked bodies, that makes the unmarked category claim the power to see and not be seen, to represent while escaping representation. This gaze signifies the unmarked positions of Man and White, one of the many nasty tones of the world 'objectivity' to feminist ears in scientific and technological, late-industrial, militarized, racist, and male-dominant societies, that is, here, in the belly of the monster, in the United States in the late 1980s. I would like a doctrine of embodied objectivity that accommodates paradoxical and critical feminist science projects: Feminist objectivity means quite simply *situated knowledges*.

The eyes have been used to signify a perverse capacity—honed to perfection in the history of science tied to militarism, capitalism, colonialism, and male supremacy—to distance the knowing subject from everybody and everything in the interests of unfettered power. The instruments of visualization in multinationalist, postmodernist culture have compounded these meanings of disembodiment. The visualizing technologies are without apparent limit. The eye of any ordinary primate like us can be endlessly enhanced by sonography systems, magnetic resonance imaging, artificial intelligence-linked graphic manipulation systems, scanning electron microscopes, computed tomography scanners, colour-enhancement techniques, satellite surveillance systems, home and office video display terminals, cameras for every purpose from filming the mucous membrane lining the gut cavity of a marine worm living in the vent gases on a fault between continental plates to mapping a planetary hemisphere elsewhere in the solar system. Vision in this technological feast becomes unregulated gluttony; all seems not just mythically about the god trick of seeing everything from nowhere, but to have put the myth into ordinary practice. And like the god trick, this eye fucks the world to make techno-monsters. Zoe Sofoulis calls this the cannibaleye of masculinist extraterrestrial projects for excremental second birthing.

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I would like to suggest how our insisting metaphorically on the particularity and embodiment of all vision (although not necessarily organic embodiment and including technological mediation), and not giving in to the tempting myths of vision as a route to disembodiment and second-birthing allows us to construct a usable, but not an innocent, doctrine of objectivity. I want a feminist writing of the body that metaphorically emphasizes vision again, because we need to reclaim that sense to find our way through all the visualizing tricks and powers of modern sciences and technologies that have transformed the objectivity debates. We need to learn in our bodies, endowed with primate colour and stereoscopic vision, how to attach the objective to our theoretical and political scanners in order to name where we are and are not, in dimensions of mental and physical space we hardly know how to name. So, not so perversely, objectivity turns out to be about particular and specific embodiment and definitely not about the false vision promising transcendence of all limits and responsibility. The moral is simple: only partial perspective promises objective vision. All Western cultural narratives about objectivity are allegories of the ideologies governing the relations of what we call mind and body, distance and responsibility. Feminist objectivity is about limited location and situated knowledge, not about transcendence and splitting of subject and object. It allows us to become answerable for what we learn how to see.

These are lessons that I learned in part walking with my dogs and wondering how the world looks without a fovea and very few retinal cells for colour vision but with a huge neural processing and sensory area for smells. It is a lesson available from photographs of how the world looks to the compound eyes of an insect or even from the camera eye of a spy satellite or the digitally transmitted signals of space probe-perceived differences 'near' Jupiter that have been transformed into coffee table colour photographs. The 'eyes' made available in modern technological sciences shatter any idea of passive vision; these prosthetic devices show us that all eyes, including our own organic ones, are active perceptual systems, building on translations and specific *ways* of seeing, that is, ways of life. There is no unmediated photograph or passive camera obscura in scientific accounts of bodies and machines; there are only highly specific visual possibilities, each with a wonderfully detailed, active, partial way of organizing worlds. All these pictures of the world should not be allegories of infinite mobility and interchangeability but of elaborate specificity and difference and the loving care

people might take to learn how to see faithfully from another's point of view, even when the other is our own machine. That's not alienating distance; that's a *possible* allegory for feminist versions of objectivity. Understanding how these visual systems work, technically, socially, and psychically, ought to be a way of embodying feminist objectivity.

Many currents in feminism attempt to theorize grounds for trusting especially the vantage points of the subjugated; there is good reason to believe vision is better from below the brilliant space platforms of the powerful.⁵ Building on that suspicion, this essay is an argument for situated and embodied knowledges and an argument against various forms of unlocatable, and so irresponsible, knowledge claims. Irresponsible means unable to be called into account. There is a premium on establishing the capacity to see from the peripheries and the depths. But here there also 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' '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; that is, from both semiological and hermeneutic modes of critical inquiry. 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 the critical and interpretive core of all knowledge. They are knowledgeable of modes of denial through repression, forgetting, and disappearing acts—ways of being nowhere while claiming to see comprehensively. The subjugated have a decent chance to be on to the god trick and all its dazzling—and, therefore, blinding—illuminations. 'Subjugated' standpoints are preferred because they seem to promise more adequate, sustained, objective, transforming accounts of the world. But *how* to see from below is a problem requiring at least as much skill with bodies and language, with the mediations of vision, as the 'highest' technoscientific visualizations.

Such preferred positioning is as hostile to various forms of relativism as to the most explicitly totalizing versions of claims to scientific authority. But the alternative to relativism is not totalization and single vision, which is always finally the unmarked category whose power depends on systematic narrowing and obscuring. The alternative to relativism is partial, locatable, critical knowledges sustaining the possibility of webs of connections called solidarity in

politics and shared conversations in epistemology. Relativism is a way of being nowhere while claiming to be everywhere equally. The 'equality' of positioning is a denial of responsibility and critical inquiry. Relativism is the perfect mirror twin of totalization in the ideologies of objectivity; both deny the stakes in location, embodiment, and partial perspective; both make it impossible to see well. Relativism and totalization are both 'god tricks' promising vision from everywhere and nowhere equally and fully, common myths in rhetorics surrounding Science. But it is precisely in the politics and epistemology of partial perspectives that the possibility of sustained, rational, objective inquiry rests.

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A commitment to mobile positioning and to passionate detachment is dependent on the impossibility of entertaining innocent 'identity' politics and epistemologies as strategies for seeing from the standpoints of the subjugated in order to see well. One cannot 'be' either a cell or molecule—or a woman, colonized person, labourer, and so on—if one intends to see and see from these positions critically. 'Being' is much more problematic and contingent. Also, one cannot relocate in any possible vantage point without being accountable for that movement. Vision is *always* a question of the power to see—and perhaps of the violence implicit in our visualizing practices. With whose blood were my eyes crafted? These points also apply to testimony from the position of 'oneself'. We are not immediately present to ourselves. Self-knowledge requires a semiotic-material technology to link meanings and bodies. Self-identity is a bad visual system. Fusion is a bad strategy of positioning. The boys in the human sciences have called this doubt about self-presence the 'death of the subject' defined as a single ordering point of will and consciousness. That judgement seems bizarre to me. I prefer to call this doubt the opening of non-isomorphic subjects, agents, and territories of stories unimaginable from the vantage point of the cyclopean, self-satiated eye of the master subject. The Western eye has fundamentally been a wandering eye, a traveling lens. These peregrinations have often been violent and insistent on having mirrors for a conquering self—but not always. Western feminists also *inherit* some skill in learning to participate in revisualizing worlds turned upside down in earth-transforming challenges to the views of the masters. All is not to be done from scratch.

history. Splitting, not being, is the privileged image for feminist epistemologies of scientific knowledge. 'Splitting' in this context should be about heterogeneous multiplicities that are simultaneously salient and incapable of being squashed into isomorphic slots or cumulative lists. This geometry pertains within and among subjects. Subjectivity is multidimensional; so, therefore, is vision. The knowing self is partial in all its guises, never finished, whole, simply there and original; it is always constructed and stitched together imperfectly, and *therefore* able to join with another, to see together without claiming to be another. Here is the promise of objectivity: a scientific knower seeks the subject position, not of identity, but of objectivity, that is, partial connection. There is no way to 'be' simultaneously in all, or wholly in any, of the privileged (i.e. subjugated) positions structured by gender, race, nation, and class. And that is a short list of critical positions. The search for such a 'full' and total position is the search for the fetishized perfect subject of oppositional history, sometimes appearing in feminist theory as the essentialized Third World Woman.⁶ Subjugation is not grounds for an ontology; it might be a visual clue. Vision requires instruments of vision; an optics is a politics of positioning. Instruments of vision mediate standpoints; there is no immediate vision from the standpoints of the subjugated. Identity, including self-identity, does not produce science; critical positioning does, that is, objectivity. Only those occupying the positions of the dominators are self-identical, unmarked, disembodied, unmediated, transcendent, born again. It is unfortunately possible for the subjugated to lust for and even scramble into that subject position—and then disappear from view. Knowledge from the point of view of the unmarked is truly fantastic, distorted, and irrational. The only position from which objectivity could not possibly be practised and honoured is the standpoint of the master, the Man, the One God, whose Eye produces, appropriates, and orders all difference. No one ever accused the god of monotheism of objectivity, only of indifference. The god trick is self-identical, and we have mistaken that for creativity and knowledge, omniscience even.

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I am arguing for politics and epistemologies of location, positioning, and situating, where partiality and not universality is the

the god trick is forbidden. Here is a criterion for deciding the science question in militarism, that dream science/technology of perfect language, perfect communication, final order.

Feminism loves another science: the sciences and politics of interpretation, translation, stuttering, and the partly understood. Feminism is about the sciences of the multiple subject with (at least) double vision. Feminism is about a critical vision consequent upon a critical positioning in unhomogeneous gendered social space. Translation is always interpretive, critical, and partial. Here is a ground for conversation, rationality, and objectivity—which is power-sensitive, not pluralist, 'conversation'. It is not even the mythic cartoons of physics and mathematics—incorrectly caricatured in antiscience ideology as exact, hypersimple knowledges—that have come to represent the hostile other to feminist paradigmatic models of scientific knowledge, but the dreams of the perfectly known in high-technology, permanently militarized scientific productions and positionings, the god trick of a Star Wars paradigm of rational knowledge. So location is about vulnerability; location resists the politics of closure, finality, or to borrow from Althusser, feminist objectivity resists 'simplification in the last instance'. That is because feminist embodiment resists fixation and is insatiably curious about the webs of differential positioning. There is no single feminist standpoint because our maps require too many dimensions for that metaphor to ground our visions. But the feminist standpoint theorists' goal of an epistemology and politics of engaged, accountable positioning remains eminently potent. The goal is better accounts of the world, that is, 'science'.

Above all, rational knowledge does not pretend to disengagement: to be from everywhere and so nowhere, to be free from interpretation, from being represented, to be fully self-contained or fully formalizable. Rational knowledge is a process of ongoing critical interpretation among 'fields' of interpreters and decoders. Rational knowledge is power-sensitive conversation.⁷ Decoding and transcoding plus translation and criticism; all are necessary. So science becomes the paradigmatic model, not of closure, but of that which is contestable and contested. Science becomes the myth, not of what escapes human agency and responsibility in a realm above the fray, but, rather, of accountability and responsibility for translations and solidarities linking the cacophonous visions and visionary voices that characterize

rational. We seek not the knowledges ruled by phallogocentrism (nostalgia for the presence of the one true Word) and disembodied vision. We seek those ruled by partial sight and limited voice—not partiality for its own sake but, rather, for the sake of the connections and unexpected openings situated knowledges make possible. Situated knowledges are about communities, not about isolated individuals. The only way to find a larger vision is to be somewhere in particular. The science question in feminism is about objectivity as positioned rationality. Its images are not the products of escape and transcendence of limits (the view from above) but the joining of partial views and halting voices into a collective subject position that promises a vision of the means of ongoing finite embodiment, of living within limits and contradictions—of views from somewhere.

OBJECTS AS ACTORS: THE APPARATUS OF BODILY PRODUCTION

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 It seems clear that feminist accounts of objectivity and embodiment—that is, of a world—of the kind sketched in this essay require a deceptively simple manoeuvre within inherited Western analytical traditions, a manoeuvre begun in dialectics but stopping short of the needed revisions. Situated knowledges require that the object of knowledge be pictured as an actor and agent, not as a screen or a ground or a resource, never finally as slave to the master that closes off the dialectic in his unique agency and his authorship of 'objective' knowledge. 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. But the same point must apply to the other knowledge projects called sciences. A corollary of the insistence that ethics and politics covertly or overtly provide the bases for objectivity in the sciences as a heterogeneous

'conversation'. The world neither speaks itself nor disappears in favour 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 thorough attacks on humanism, another branch of 'death of the subject' discourse, have made this point quite clear. In some critical sense that is crudely hinted at by the clumsy category of the social or of agency, the world encountered in knowledge projects is an active entity. In so far as a scientific account has been able to engage this dimension of the world as object of knowledge, faithful knowledge can be imagined and can make claims on us. But no particular doctrine of representation or decoding or discovery guarantees anything. The approach I am recommending is not a version of 'realism', which has proved a rather poor way of engaging with the world's active agency.

My simple, perhaps simple-minded, manoeuvre is obviously not new in Western philosophy, but it has a special feminist edge to it in relation to the science question in feminism and to the linked question of gender as situated difference and the question of female embodiment. Ecofeminists have perhaps been most insistent on some version of the world as active subject, not as resource to be mapped and appropriated in bourgeois, Marxist, or masculinist projects. Acknowledging the agency of the world in knowledge makes room for some unsettling possibilities, including a sense of the world's independent sense of humour. Such a sense of humour is not comfortable for humanists and others committed to the world as resource. There are, however, richly evocative figures to promote feminist visualizations of the world as witty agent. We need not lapse into appeals to a primal mother resisting her translation into resource. The Coyote or Trickster, as embodied in Southwest native American accounts, suggests the situation we are in when we give up mastery but keep searching for fidelity, knowing all the while that we will be hoodwinked. I think these are useful myths for scientists who might be our allies. Feminist objectivity makes room for surprises and ironies at the heart of all knowledge production; we are not in charge of the world. We just live here and try to strike up non-innocent conversations by means of our prosthetic devices, including our visualization technologies. No wonder science fiction has been such a rich writing practice in recent feminist theory. I like to see feminist theory as a reinvented coyote discourse obligated to its sources in many heterogeneous accounts of the world.

Another rich feminist practice in science in the last couple of

decades illustrates particularly well the 'activation' of the previously passive categories of objects of knowledge. This activation permanently problematizes binary distinctions like sex and gender, without eliminating their strategic utility. I refer to the reconstructions in primatology (especially, but not only, in women's practice as primatologists, evolutionary biologists, and behavioural ecologists) of what may count as sex, especially as female sex, in scientific accounts.⁸ The *body*, the object of biological discourse, becomes a most engaging being. Claims of biological determinism can never be the same again. When female 'sex' has been so thoroughly retheorized and revisualized that it emerges as practically indistinguishable from 'mind', something basic has happened to the categories of biology. The biological female peopling current biological behavioural accounts has almost no passive properties left. She is structuring and active in every respect; the 'body' is an agent, not a resource. Difference is theorized *biologically* as situational, not intrinsic, at every level from gene to foraging pattern, thereby fundamentally changing the biological politics of the body. The relations between sex and gender need to be categorically reworked within these frames of knowledge. I would like to suggest that this trend in explanatory strategies in biology is an allegory for interventions faithful to projects of feminist objectivity. The point is not that these new pictures of the biological female are simply true or not open to contestation and conversation—quite the opposite. But these pictures foreground knowledge as situated conversation at every level of its articulation. The boundary between animal and human is one of the stakes in this allegory, as is the boundary between machine and organism.

So I will close with a final category useful to a feminist theory of situated knowledges: the apparatus of bodily production. In her analysis of the production of the poem as an object of literary value, Katie King offers tools that clarify matters in the objectivity debates among feminists. King suggests the term 'apparatus of literary production' to refer to the emergence of literature at the intersection of art, business, and technology. The apparatus of literary production is a matrix from which 'literature' is born. Focusing on the potent object of value called the 'poem', King applies her analytic framework to the relation of women and writing technologies.⁹ I would like to adapt her work to understanding the generation—the actual production and reproduction—of bodies and other objects of value in scientific knowledge projects. At first glance, there is a limitation to using King's scheme inherent in the 'facticity' of biological

discourse that is absent from literary discourse and its knowledge claims. Are biological bodies 'produced' or 'generated' in the same strong sense as poems? From the early stirrings of Romanticism in the late eighteenth century, many poets and biologists have believed that poetry and organisms are siblings. *Frankenstein* may be read as a meditation on this proposition. I continue to believe in this potent proposition but in a postmodern and not a Romantic manner. I wish to translate the ideological dimensions of 'facticity' and 'the organic' into a cumbersome entity called a 'material-semiotic actor'. This unwieldy term is intended to portray the object of knowledge as an active, meaning-generating part of apparatus of bodily production, without *ever* implying the immediate presence of such objects or, what is the same thing, their final or unique determination of what can count as objective knowledge at a particular historical juncture. Like 'poems', which are sites of literary production where language too is an actor independent of intentions and authors, bodies as objects of knowledge are material-semiotic generative nodes. Their *boundaries* materialize in social interaction. Boundaries are drawn by mapping practices; 'objects' do not pre-exist as such. Objects are boundary projects. But boundaries shift from within; boundaries are very tricky. What boundaries provisionally contain remains generative, productive of meanings and bodies. Siting (sighting) boundaries is a risky practice.

Objectivity is not about disengagement but about mutual *and* usually unequal structuring, about taking risks in a world where 'we' are permanently mortal, that is, not in 'final' control. We have, finally, no clear and distinct ideas. The various contending biological bodies emerge at the intersection of biological research and writing, medical and other business practices, and technology, such as the visualization technologies enlisted as metaphors in this essay. But also invited into that node of intersection is the analogue to the lively languages that actively intertwine in the production of literary value: the coyote and the protean embodiments of the world as witty agent and actor. Perhaps the world resists being reduced to mere resource because it is—not mother/matter/mutter—but coyote, a figure of the always problematic, always potent tie between meaning and bodies. Feminist embodiment, feminist hopes for partiality, objectivity, and situated knowledge

hopes for accountability, for politics, for ecofeminism, turn on revising the world as coding trickster with whom we must learn to converse.

Notes

1. For example, see Karin Knorr-Cetina and Michael Mulkey (eds.), *Science Observed: Perspectives on the Social Study of Science* (London: Sage, 1983); Wiebe E. Bijker, Thomas P. Hughes, and Trevor Pinch (eds.), *The Social Construction of Technological Systems* (Cambridge: MIT Press, 1987); and esp. Bruno Latour's *Les microbes, guerre et paix, suivi de irréductions* (Paris: Métailié, 1984) and *The Pasteurization of France, Followed by Irreductions: A Politico-Scientific Essay* (Cambridge: Harvard University Press, 1988). . . .
2. In 'Through the Lumen: Frankenstein and the Optics of Re-Origination' (Ph.D. diss. University of California at Santa Cruz, 1988), Zoe Sofoulis has produced a dazzling (she will forgive me the metaphor) theoretical treatment of technoscience, the psychoanalysis of science fiction culture, and the metaphysics of extraterrestrialism. . . . My essay was revised in dialogue with Sofoulis's arguments and metaphors in her dissertation.
3. Nancy Harstock, *Money, Sex, and Power: An Essay on Domination and Community* (Boston: Northeastern University Press, 1984).
4. Harding, 24–26, 161–62.
5. See Harstock, 'The Feminist Standpoint: Developing the Ground for a Specifically Feminist Historical Materialism'; and Chela Sandoral, *Yours in Struggle: Women Respond to Racism* (Oakland: Center for Third World Organizing, n.d.); Harding; and Gloria Anzaldúa, *Borderlands/La Frontera* (San Francisco: Spinsters/Aunt Lute, 1987).
6. Chandra Mohanty, 'Under Western Eyes', *Boundary*, 2 and 3 (1984): 333–58.
7. Katie King, 'Canons without Innocence' (Ph.D. diss., University of California at Santa Cruz, 1987).
8. Donna Haraway, *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (New York: Routledge & Kegan Paul, 1989).
9. Katie King, prospectus for 'The Passing Dreams of Choice . . . Once Before and After: Audre Lorde and the Apparatus of Literary Production' (MS, University of Maryland, College Park, Maryland, 1987).