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When We Have Never Been Human, What Is to Be Done?: Interview with Donna Haraway

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When We Have Never Been Human, What Is to Be Done?
Interview with Donna Haraway

NG: The 'Cyborg Manifesto' was first published in *Socialist Review* in 1985, which makes it 21 years old in 2006. What were your aims and motivations for writing this essay?

DH: There were two kinds of public position papers that I was asked to take in the context of US socialist feminism and more broadly new Left movements in the early 1980s. From a United States point of view, shortly after the election of Reagan the *Socialist Review* collective on the West coast asked me and many other people – Barbara Ehrenreich and others – to write five pages coming to terms with socialist feminism and to ask what kinds of urgent political changes we had to make. We asked what kinds of future could there be in our movements in the context of the Reagan election, and of course what that election represented much more broadly in terms of cultural and political affairs, not only in the United States but worldwide. Thatcher in England symbolized some of that, but it was way more than any national formation.

So, we were asked to produce five pages coming to terms with this out of our heritage and that was the immediate provocation for the text that ended up in *Socialist Review* that circulates as the manifesto for cyborgs, or as I really wanted to title it the 'Cyborg Manifesto' in immediate joking relation with Marx's *Communist Manifesto*. But then there was also another provocation related to the same network of people which was an international conference of new Left movements in Cavtat in Yugoslavia (now Croatia) a couple of years before it came out in *Socialist Review*. I was asked to represent the *Socialist Review* collective at that conference and it helped me think in a more transnational way about informatics of domination, cyborg politics and the extraordinary importance of IT worlds.

This also came out of my own history as a biologist. My PhD is in biology. I loved biology and I seriously, passionately engaged with its knowledge projects: its materialities, organisms and worlds. But I also always inhabited biology from an equally powerful academic formation in literature and philosophy. Politically and historically, I could never take the organism

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as something simply there. I was extremely interested in the way the organism is an object of knowledge as a system of the production and partition of energy, or as a system of division of labour with executive functions. This is the history of the ecosystem as an object that could have only come into being in the context of resource managements, the tracking of energies through trophic layers, the tagging apparatuses made possible by the Savannah River Nuclear facilities, and the emergence of wartime inter-disciplinarities in cybernetics, nuclear chemistry and systems theories.

It was never really possible for me to inhabit biology without a kind of impossible consciousness of the radical historicity of these objects of knowledge. You read people like Foucault and you're never the same again. But I never was a postmodernist out of a fundamentally literary tradition or architectural tradition. For me it was always about the materialities of instrumentation of organisms and laboratories, [I was] always really interested in the various non-humans on the scene. The 'Cyborg Manifesto' came out of all that.

NG: And, of course, the 'Manifesto' is a statement of feminist theory.

DH: It is a feminist theoretical document – a coming to terms with the world we live in and the question 'What is to be done?' Manifestos provoke by asking two things: where the holy hell are we, and so what? The 'What is to be done?' question [is] in Lenin's 1902 tract, but with a very different reply from his call for a strictly controlled party of dedicated revolutionaries.

NG: You have said previously that there were readers 'who would take the "Cyborg Manifesto" for its technological analysis' but at the same time were inclined to 'drop the feminism' (Haraway, 2004: 325). Perhaps this is a good place for us to start. In what sense is the 'Cyborg Manifesto' a feminist manifesto? You have since spoken of 'a feminism that does not embrace Woman, but is for women' (2004: 329). What exactly is the basis of such feminism?

DH: Well, that is complicated and we can only follow a couple of threads in thinking about that. In bell hooks' terms, as a verb, feminism is about women's moving, not about some kind of particular dogma. I was among many others swept up in my generation of women's movements. I was involved in women's liberation movement politics that came out of the late 1960s, and there is a very personal inheritance there that has to do with its class and racial segmentations: my understanding of the power and limits of my own historical feminism personally in my kinds of little collective worlds.

But then there is a much bigger heritage there too of trying to come to terms with the impossible hope that the established disorder isn't necessary. This heritage is from critical theory and sees feminism as an act of refusal of the profound suffering in women's lives worldwide and deep in

history, while at the same time coming to terms [with the fact that] it has not all been suffering. There is something about women's lives that deserves celebrating, naming and living, and there are some urgent cultural and organizational needs among us – whoever 'us' is.

Feminism was a complicated heritage, a place of urgent politics and a place of intense pleasures of being part of women's movement. All that and coming to it as a scientist, and not any old kind of scientist but as a biologist, and as a Catholic refusing the church but never able to be a secular humanist. Semiosis is bloody and fleshly and living out of some kind of inability to be very happy about a semiotics which is supposedly just about the text in some kind of rarefied form. The text is always fleshly and regularly not human, not done, not man. That was feminism then and it still is for me.

NG: Some readers of the 'Manifesto' have observed that 'you insist on the femaleness of the cyborg' (Haraway, 2004: 321). Is this correct? In a key passage you say that the 'cyborg is a creature of a post-gender world' (1991a: 150), but you have since declared that you have 'never liked' the term 'post-gender' (Haraway, 2004: 328). Why is this? In a world of transversals in which the borders between nature and culture are no longer clear, the concept of 'post-gender' would seem to be a useful one. At the conclusion to the 'Manifesto' you allude to 'the utopian dream' of 'a monstrous world without gender' (1991a: 181). Is the idea of moving beyond gender, then, nothing more (or less) than a 'utopian dream'?

DH: No! Obviously gender is as ferocious as ever among us. There are little wrinkles on it but it's redone in a range of ways. And there is a trans-ing world going on that makes gender the wrong noun. 'Trans-' people are doing some really interesting theoretical work, including a former student of mine – Eva Shawn Hayward – who refuses to do it in relation to people (2004). All kinds of interesting stuff is going on under the prefixes post- and trans-. It's not a utopian dream but an on-the-ground working project. I have trouble with the way people go for a utopian post-gender world – 'Ah, that means it doesn't matter whether you're a man or a woman any more.' That's not true. But in some places of fantasy and worlding, it actually is true, both for good and bad reasons.

NG: So how do you think about gender in an increasingly transversal world?

DH: In the way Susan Leigh Star and Geoff Bowker teach me to think: category work (see Bowker and Star, 1999). Don't deify the category. Don't make a criticism and think it just disappears because you've made a criticism. Just because you or your group got at how it works doesn't make it go away, and because you get that it is made doesn't mean to say it's made up. We're in a post-gender world in some ways, and in others we're in a ferociously gender-in-place world. But maybe the women-of-colour theorists got it right

when they said we're in an intersectional world. That's what Leigh and Geoff meant when they came up with the category of torque. We live in a world where people are made to live several non-isomorphic categories simultaneously, all of which 'torque' them. So, in some ways post-gender is a meaningful notion, but I get really nervous about the ways in which it gets made into a utopian project.

NG: So did you use the term post-gender provocatively, and people ran with it in different directions?

DH: Yes. But what about a world without gender as we know it? Some people took that to mean a world without desire, sex, an unconscious, and I didn't mean that. But I did mean that the Freudian theory of the unconscious is only a neighbourhood analysis, although rather a powerful one.

NG: One thing I find fascinating about the 'Manifesto' is its complex mix of feminism and cybernetics. It is stated, for example, that 'Human beings, like any other component or subsystem, must be localized in a system architecture whose basic modes of operation are probabilistic' (Haraway, 1991a: 212). This is a radical extension of Claude Shannon and Warren Weaver's famous *Mathematical Theory of Communication* (1949), in which information is defined in statistical terms. In an interview conducted in 1999 you said that you were familiar with the work of Norbert Wiener at the point of writing the 'Manifesto' (Haraway, 2004: 324), but were Shannon and Weaver also key points of reference? And what of cybernetics more generally – is this a field which continues to influence your work?

DH: Yes, Shannon and Weaver were there. I had read them and the Macy conferences were there more generally. My dissertation adviser was Evelyn Hutchinson (1903–91), who was a really wonderful man: a theoretical ecologist, mathematician, biologist, natural historian, studier of Italian medieval manuscripts – a polymath of his generation, English by origin (see Hutchinson, 1979). I fled to his lab from developmental biology and its molecular incarnations because all my cells were dying in the lab – partly! But mainly because I was intellectually unhappy and I finally had to get it that biology for me was a cultural-material practice. I needed to locate biology in its intersection with many other communities of practice, made up of entangled humans and others, living and not. Evelyn Hutchinson's lab made that possible. In his lab we read things like Simone Weil, Shannon and Weaver, and Virginia Woolf – those were the 'biology' texts that we read as part of his lab group. It was not a biology lab group in the narrow sense. It was a 'what's interesting the world' lab group. And a lot of people that came out of Evelyn's lab – like Robert MacArthur (1930–72) – [were] really important biologists. MacArthur's colleague-ship with E.O. Wilson on island biogeography (MacArthur and Wilson, 2001 [1967]) is really important. MacArthur was a major cybernetic theorist in animal behaviour and a fabulous ornithologist.

Anyway, a lot of people came out of Evelyn's lab deeply interested in various aspects of cybernetics, including me. But how could you not be interested in that stuff in those years? The quote you just read is not so much what I want to be the case but my sitting down and looking at what seemed to me to be an imperative that knowledge projects these days constitute their objects of attention in the Foucauldian sense – as discourse constitutes it own objects of attention. This is not a relativist position. This is not about things being merely constructed in a relative sense. This is about those objects that we non-optionally are. Our systems are probabilistic information entities. It is not that this is the only thing that we or anyone else is. It is not an exhaustive description but it is a non-optional constitution of objects, of knowledge in operation. It is not about having an implant, it is not about liking it. This is not some kind of blissed-out techno-bunny joy in information. It is a statement that we had better get it – this is a worlding operation. Never the only worlding operation going on, but one that we had better inhabit as more than a victim. We had better get it that domination is not the only thing going on here. We had better get it that this is a zone where we had better be the movers and the shakers, or we will be just victims.

So inhabiting the cyborg is what this manifesto is about. The cyborg is a figuration but it is also an obligatory worlding – that inhabiting it you can't not get it – that it's a military project, a late capitalist project in deep collaboration with new forms of imperial war – McNamara's electronic battlefield is of course a major parent of cyborg worlds – also the Bell telephone company. And much more than that – cyborgs open radical possibilities at the same time.

This is like Bruno Latour, but I give more space to the critic in the basement than Bruno Latour. I have more sympathy with critical theory than Bruno does – much more. And I'm much more willing to live with indigestible intellectual and political heritages. I need to hold on to impossible heritages more than I suspect Bruno wants to. Our kinds of creativity take different directions but they're allied.

So yes, Shannon and Weaver are in there big time. Cybernetics is in there in various forms. Gregory Bateson is in there too, and through Bateson's lineage the second/third order of cybernetic worlds that Katherine Hayles analyses (see Hayles, 1999). I'm sympathetic to certain kinds of cybernetic efforts to think through autopoiesis. Lynn Margulis is also in there with the whole Gaia hypothesis of the world, including her symbiogenesis stuff. I am nonetheless deeply resistant to systems theories of all kinds, including so-called third-order cybernetics and the autopoiesis and structural coupling approaches. I'm not really happy there, but I remember that there is much more than Norbert Wiener in cybernetics.

NG: There seems to have been a general resurgence of interest in cybernetics as debates over the 'posthuman' have come to the fore (for example in Hayles, 1999). The subtitle of your 1992 essay 'Ecce Homo, Ain't (Ar'n't)

I a Woman, and Inappropriate/d Others' is 'The Human in a Post-humanist Landscape' (in Haraway, 2004: 47–61). What do you take this term 'post-human' to mean? Is it a concept that you continue to find useful?

DH: I've stopped using it. I did use it for a while, including in the 'Manifesto'. I think it's a bit impossible not to use it sometimes, but I'm trying not to use it. Kate Hayles writes this smart, wonderful book *How We Became Posthuman*. She locates herself in that book at the right interface – the place where people meet IT apparatuses, where worlds get reconstructed as information. I am in strong alliance with her insistence in that book, namely getting at the materialities of information. Not letting anyone think for a minute that this is immateriality rather than getting at its specific materialities. That I'm with, that sense of 'how we became posthumanist'. Still, human/posthuman is much too easily appropriated by the blissed-out, 'Let's all be posthumanists and find our next teleological evolutionary stage in some kind of transhumanist techno-enhancement.' Posthumanism is too easily appropriated to those kinds of projects for my taste. Lots of people doing posthumanist thinking, though, don't do it that way. The reason I go to companion species is to get away from posthumanism.

Companion species is my effort to be in alliance and in tension with posthumanist projects because I think species is in question. In that way I'm with Derrida more than others, and with Cary Wolfe's reading of Derrida (see, for example, Wolfe, 2003). I'm with zoontologies more than posthumanism because I think that species is in question here big time and species is one of those wonderful words that is internally oxymoronic. This approach insists on its Darwinist meanings, including considering people as *Homo sapiens*. 'Companion species' thinking inquires into the projects that construct us as a species, philosophical or otherwise. 'Species' is about category work. The term is simultaneously about several strands of meaning – logical type, taxa characterized through evolutionary biology, and the relentless specificity of meanings.

You also can't think species without being inside science fiction. Some of the most interesting species stuff is done through both literary and non-literary science fiction projects – art projects of various kinds. Posthuman is way too restrictive. So I go to companion species, although it has been over-coded as meaning dogs and cats. I set myself up by writing about dogs first. But I think of the 'Cyborg Manifesto' and *Companion Species Manifesto* (2003) as bookends around an interrogation of relationalities where species are in question and where posthuman is misleading.

NG: What I've tried to do in my own work is to use ideas of the posthuman to place the presupposition of the human into question.

DH: It absolutely does.

NG: I see the same type of questioning in your response to Jacques Derrida's essay (see Wolfe, 2003) on the three wounds to human narcissism: the Copernican, Darwinian and Freudian. To these, you add a fourth wound that is 'associated with issues of the digital, the synthetic' (Haraway and Schneider, 2005: 139). What exactly is this 'fourth wound', and how has it developed since the time of writing the 'Manifesto', especially given the massive transformations in digital communication technologies that have taken place since 1985?

DH: The fourth wound forces us to acknowledge that our machines are lively too. Not only are we displaced cosmologically in terms of the fiction of man at the centre and displaced pyschoanalytically and displaced zoologically. We are also displaced in terms of the built world as the only site of autopoiesis. The reason I'm hesitant about autopoiesis was taught to me by one of my current graduate students, Astrid Schrader, whose first formation was as a physicist. She is upset with autopoiesis because of its closures – because nothing self-organizes – it's relationality all the way down and self-organization repeats the trouble of systems theories, and so she goes to Derrida in ways that really helped me.

Both of us, along with another graduate student, Mary Weaver, who writes about trans-worlds, go to Isabelle Stengers for her readings of Whitehead's thinking about abstractions as 'lures' (see Schrader, 2006; Stengers 2002; Weaver, 2005). The task is to invent better abstractions and autopoiesis probably isn't it. And so with Isabelle I feel lured to some kind of 'species-in-question' thinking.

The fourth wound to primary narcissism – this question of the relationalities of us with that which isn't human – begins to get at our constitutive relationalities with the machinic but also more than the machinic – with the non-living and the non-human. Bruno Latour is trying to do that too. I think this is where lots of us are because this is where many urgent questions in the world are.

NG: In the 'Manifesto' you declare that 'Our machines are disturbingly lively, and we ourselves frighteningly inert' (Haraway, 1991a: 152). Is this a playful statement aimed at provoking thinkers who continue to treat human agency as something sacred, prior to or independent of machines, or is it a more serious declaration about the emergence of intelligent technologies that possess creative powers and agencies that rival those of so-called 'human' beings?

DH: It is both. And it is also complaint about the passivity of my own political friends and myself and my intellectual buddies. It's a complaint. It's like Bruno Latour's complaint about the stupidity of critical theorists in just doing critique once again, in being stuck where Adorno and Horkheimer were much more legitimately stuck. What they did then needed to be done. But it is crazy to be stuck in that relentless complaint about technology and

techno-culture and not getting the extraordinary liveliness that is also about us. It's a very grumpy remark about the kind of work that needs to be done, and which many people are doing. All you have to do is look where creative cultural and intellectual work is being done on the ground, in and out of writing technologies of all sorts. Katie King, I think, is the most interesting theorist of writing technologies these days (see her *Flexible Knowledges* and *Networked Re-enactments*, both under review). She is at the University of Maryland; I first knew her as a graduate student. There is a huge amount of intensely interesting cultural work going on that critical theorists can't deal with.

NG: Recent debates about the human/posthuman also challenge us to rethink the concept of the social. Classically, the social has tended to be built upon a conception of a bounded human subject, but this has become difficult to sustain in the light of recent challenges to what counts as being 'human'. In *Modest_Witness* you make a number of interesting statements about the social. You declare, for example, that 'social relationships include nonhumans as well as humans as *socially* . . . active partners' (1997: 8). At a later point, you add that the social is never something that is in itself 'onto-logically real and separate' (1997: 68). This seems comparable to the position of Bruno Latour, who refuses to tie the social to an all-powerful notion of society or to social forces that underpin and explain all other phenomena. What role does the concept of the social play in your work?

DH: I try to displace it from its exclusive location in human doings, such that at the end of the day most social theorists – not all these days, and Latour's a good example – but nonetheless at the end of the day most social theorists really mean social relations and history, and it's pretty much a human form that constitutes itself over and against that which is not human. I think that Derrida gives us the most powerful critical tools for seeing how that continues to be done. But I also think that Derrida stops at showing us how it's done.

　　I'm working on a little essay right now called 'And Say the Philos-opher Responded' because Derrida's got that smart piece 'And Say the Animal Responded' (see Wolfe, 2003) and that other smart piece 'The Animal That Therefore I Am' (Derrida, 2002). That's the one where he has his confrontation with his cat and it's his actual cat! To his extraordinary credit – and he is alone among philosophers – it is a real cat who calls him to attention and makes him notice that he is naked – although I think the cat probably didn't care that he was naked. But what he goes on to do in this really creative way is to deal with the shame of philosophy and the shame of its being naked before the world. The shame is more masculine than human, a point Derrida forgets to mention, because it is his full frontal male nudity that motivates the whole argument. His curiosity about the cat is nowhere to be seen after that first crucial realization that this animal is not 'reacting' but 'responding'.

Oddly then, and I think tragically, Derrida gets doubly caught in the very masculine exceptionalism, called human exceptionalism, that he is deconstructing, first, by his single-eyed vision of the one and only unclothed organ and second, by his failing the obligation of curiosity about what the cat cared about in that looking. I think that curiosity – the beginning of fulfilment of the obligation to know more as a consequence of being called into response – is a critical axis of an ethics not rooted in human exceptionalism.

Deleuze and Guattari are much, much worse. I think their becoming-animal chapter (Deleuze and Guattari, 1987: 232–309) is an insult because they don't give a flying damn about animals – critters are an excuse for their anti-oedipal project. Watch the way they excoriate old women and their dogs as they glorify the wolf pack in their 'horizon of becoming' and lines of flight. Deleuze and Guattari make me furious with their utter lack of curiosity about actual relations among animals and between animals and people, and the way they despise the figure of the domestic in their glorification of the wild in their monomaniacal anti-oedipal project. And people pick them up as if they were helpful in figuring sociality beyond the human. Nonsense! Despite his cyclopean lapses, Derrida is much more helpful.

But I am serious about the temporalities, scales, materialities, rela-tionalities between people and our constitutive partners, which always include other people and other critters, animal and not, in doing worlds, in worlding. I think 'the social' as a noun is every bit as much a problem as 'the animal' or 'the human', but as a verb it is much more interesting. Somehow we have to figure out how not to do it as a noun but without throwing out the baby with the bathwater. So, what could social mean? You can't proceed by analogy because you don't want to anthropomorphize the non-human partners as a way of meeting them. Who needs that?

NG: But that's what tends to happen.

DH: It happens all the time because we don't know how to do it otherwise. I think of all the really important work among all the animal rights workers, philosophers and others who do it that way. But we can't do it that way – we can't anthropomorphize or zoomorphize. We need new category work. We need to live the consequences of non-stop curiosity inside mortal, situated, relentlessly relational worlding.

NG: This is perhaps an opportune moment to return to the three boundary breakdowns that frame your definition of the cyborg in the 'Manifesto'. The first of these is the boundary between humans and animals. This boundary is also addressed in detail in your discussion of transgenetic organisms in *Modest_Witness* (1997: 55–69) and in your discussion of kinship in your recent essay on companion species (2004: 295–320). Given the advances in genetic and information sciences that have taken place over the past 21 years, it would seem that the boundary line between humans and animals

is frailer than ever. But, at the same time, your idea of companion species seems to reinforce species boundaries as well as looking for commonalities or connections across them. Is this right? And perhaps you could explain why you now see 'cyborgs as junior siblings' in a 'much bigger, queer family of companion species' (Haraway, 2004: 300)?

DH: I actually don't think that [the idea of] companion species reinforces species boundaries but I can see how I set myself up to be read that way. There is that whole section in the *Companion Species Manifesto* (2003) that begins to take apart the word 'species', but it didn't do it well enough. And, like cyborg, living as species is non-optional. We have been worlded as species in a kind of Foucauldian sense of discourse producing its objects again. Two hundred years of what became the powerful world-changing discourses of biology have produced us as species, and other critters too.

We are also undergoing a moment of radical reconfiguration of category work in biology in the form of bio-capital and biotechnology, which, as Sarah Franklin theorizes especially well, is about these kinds of trans-relationships that re-do kinships. Sarah and I have been in this thick conversation around kinship, around when the family is not produced genealogically – when family is the wrong word – when kin and kin-kind are being re-done through 'trans-ing' of all kinds – most certainly molecular-genetic kinds – and where transnational biodiversity databases are one of the major materialities of trans-species, material-semiotic beings these days.

So, I'm very interested in species but not as taxonomically closed and finished categories but as ongoing kin-kind work that has very important kinds of instrumentalization these days – deeply intertwined with IT and biocapital. The *Companion Species* book is a kind of first salvo for me into trying to rethink species with cyborg, dog, oncomouse, brain, database – that family of kin in *Modest_Witness* – I'm serious about that. I think other people are doing a better job on a whole lot of this work than I am, and it's a collective project. I think we live in these imploded worlds – worlds where living and dying are at stake differentially. Species is one of the worlds and it's being re-done.

Irreducibly, I'm in love with the real critters, like Cayenne [one of Donna's dogs]. That book starts with a little soft porn that plays off of a 'forbidden conversation' between Cayenne and me. This 'oral commerce' is perhaps my reply to Derrida's frontal nudity before his cat. I think I am more concerned with what this dog thinks I mean, and with what she means and we mean together, than with what the philosophers, or better the philosophy machine, has been up to yet again.

The book tries to take seriously the fact that all love objects are inappropriate. If you are actually in love, you find yourself always to be in love with the wrong kind of love object – even if you are married, even if it is altogether upheld by the state – love undoes and re-does you. So, as in the 'Cyborg Manifesto', I'm also trying to come to terms with where we find

ourselves together. This critter – Cayenne – and me, Donna: where do we find ourselves? When my dog and I touch, where and when are we? Which worldings and which sorts of temporalities and materialities erupt into this touch, and to what and whom is a response required?

For example, we land in the re-arrangement of biodiversity databases, dog and human genome projects, and post-genomics; we land in the inheritance of land consolidations in the post-gold rush in the western United States and its mining and ranching practices, and its food practices. We land where dogs are part of the labour force. We land in the rodeo and its heritages around animal rights problems. We land in many temporalities. We land in what Harriet Ritvo (1987) wrote about so well in *Animal Estate*, or in what Sarah Franklin called 'breed wealth' and in contemporary breeding practices (see her *Dolly Mixtures*, forthcoming).

Taking this relationship seriously and unwinding who we are here lands us in many concatenated worlds, in a very situated 'becoming'. Then the fundamental ethical, political question is: to what are you accountable if you try to take what you have inherited seriously? If you take love seriously, then what? You can't be accountable to everything, so you try to figure out how to think of the world through connections and encounters that re-do you, not through taxonomies. So, here we are in criminal conversation, forbidden intercourse, queer commerce; and I think I/we end up differently accountable – and differently curious – through tracking those linkages than I/we were at the beginning.

NG: When I spoke to Bruno Latour he said that the big challenge now is to work out how to collect or classify things if you think the world through connections.

DH: Exactly right, and that is where I think Bruno and I are in relentless alignment, even as we give each other indigestion about some of the ways we do it. I think we love each other's work because that is what matters.

NG: The second boundary breakdown in the 'Manifesto' is between humans and machines, which we have touched upon already. Near the conclusion of the 'Manifesto' you state that:

> The machine is not an *it* to be animated, worshipped, and dominated. The machine is us, our processes, an aspect of our embodiment. We can be responsible for machines; *they* do not dominate or threaten us. We are responsible for boundaries; we are they. (1991a: 180)

Does this imply that humans have always been machines (or autopoietic systems in the cybernetic sense) and that there are no obstacles that prevent the further blending of human consciousness or the human body with information technologies? Or are there potential barriers here? Katherine Hayles, for example, has argued that:

> Humans may enter into symbiotic relationships with intelligent machines . . .
> they may be displaced by intelligent machines . . . but there is a limit to how
> seamlessly humans can be articulated with intelligent machines, which
> remain distinctively different from humans in their embodiments. (1999: 284)

Where now do you stand on this question?

DH: The short answer is that I agree with Kate Hayles for the most part, but
I would it put it a little differently that maybe has some significant differ-
ence. Of course there are barriers. I can't believe the blissed-out techno-
idiocy of people who talk about downloading human consciousness onto a
chip.

NG: You mean Hans Moravec?

DH: Yes, I mean these guys actually talk about this – and they are guys. It's
a kind of techno-masculinism of a self-caricaturing kind. They ought to be
ashamed of themselves! I find myself regularly unable to believe they mean
it. And then I read their stuff and I have to get it that they do mean it. It's
stupid and silly, and hardly worth commenting on except that powerful
people turn it into projects and so you have to comment.

Now, that said, I also think you can historicize through this kind of
reading back cyborg kinds of things to all the time, everywhere, but I don't
like doing that – I'm not a Lovelockian type. I don't like that metanarrative
that it's always been this way. I think the cyborg story is a fairly historically
limited one, and it's not all human–machine joinings. I'm interested in
historical differences as much as I am continuity and I think the cyborg way
of doing who we are has a pretty recent history. Maybe you could date it
from the late 19th century, or maybe it's better to track it though the 1930s,
or through the Second World War, or after. Depending on what you want to
foreground, you could track it in different ways, but it's pretty recent.

Cyborgs have to do with this interesting critter called information, and
you really can't treat that ahistorically – as if 'information' refers to some-
thing existing all the time, everywhere. That's a mistake because you don't
get at the ferocity and specificity of now.

You can't do 'human' ahistorically either, or as if 'human' were one
thing. 'Human' requires an extraordinary congeries of partners. Humans,
wherever you track them, are products of situated relationalities with
organisms, tools, much else. We are quite a crowd, at all of our temporali-
ties and materialities (which don't appear as containers for each other but
as co-constituting verbs), including that of earth history and evolution. How
many species are in the genus *Homo* now? Lots. And there are several
genera for our close ancestral and parallel kin as well.

If you are still interested in bio-anthropology, physical anthropology
and primatology, which I am, there is a lot going on taxonomically now which
is quite interesting. All of those humans engaged with tools in various ways,

but so too do a bunch of other animals, including crows. Think of all that is going on now in the study of bird cognition and bird behaviour. It turns out that birds do tools way more deeply than we ever thought. This is big in earth history. But cyborgs are recent. Humans as cyborgs are very junior and still always a multispecies crowd – species in that sense of many kinds of players, organic and otherwise, that we talked about earlier.

NG: I felt there was an implication in your statement that you had always read humans as forms of machines anyway – a kind of cybernetic reading.

DH: No. I think Lovelockian types would have us read humans that way but I don't. I think those histories are quite wrong-headed. I am serious about the ontological claim that 'that is who we have been made to become'. We do life that way, as cyborgs – but it's not the only way we do life. There are lots of 'we's here, and nobody is in a single 'we', so I'm really serious that that is an ontological statement about the world, and I think I know something about how we got that way.

Susan Leigh Star is the one who put it most powerfully – she and Geoff Bowker, in their book *Sorting Things Out* (1999), where they talk about torque for getting how people have to live in relation to several simultaneously obligatory systems of standardization that they can't fit, but must live with. That is the way I'm interested in it. Not as peaceful stories about the history of the world. I do metanarratives all the time. I'm interested in big histories but I won't let it be one story. Human beings have always been in partnership. To be human is to be a congeries of relationalities, even if you are talking about *Homo erectus*. So it's relationalities all the way down, but they aren't always about machines, much less information technologies.

NG: The third boundary discussed in the 'Manifesto' is possibly the most elusive – that between the realms of the 'physical and non-physical'. Your original essay does not discuss this boundary line in much detail, but in recent debates in media and cultural studies it has become a focal point. I am thinking, for example, about recent exchanges over the connection between the material and the virtual (Hayles) or hardware and software (Kittler). This connection between the physical and the non-physical seems central to your reading of bodies as 'material–semiotic nodes' (1991b: 208). It also seems central to your later discussion of intellectual property in *Modest_Witness* (1997: 70–94). How do you conceive of this boundary line between 'the physical' and 'non-physical' today?

DH: I re-read that part because I'm least happy with what happened in the 'Manifesto' on that. It was a kind of translation of the mind–body dualism and material–semiotic is what became of that – you're right – and it's still a placeholder for an effort to try to name it analytically better. There is a simple point here – with which Kate Hayles, I think, is in agreement – which is that the virtual isn't immaterial. Anyone who thinks it is, is nuts.

Boundary sorting between 'physical' and 'non-physical' is always about a specific mode of worlding, and the virtual is perhaps one of the most heavily invested apparatuses on the planet today – whether you talk about financial investment, mining, manufacturing, labour processes, and vast labour migrations and outsourcing which provoke huge political debates, nation-state crises of various kinds, reconsolidations of national power in some ways and not others, military practices, subjectivities, cultural practices, art and museums. I don't care what you are talking about, but if you think that virtualism is immaterial, I don't know what planet you are living on!

But the word invites you to think of it as immaterial which is an ideological move. If ever we needed ideology analysis, it is to get at how the virtual as immaterial is one of those mistakes that critical theorists taught us how to see. Believing that somehow there is this seamless, friction-free becoming is an ideological mistake that we ought to be astonished that we can still make.

If we're going to get at why we still make it, we need psychoanalytic mechanisms. We need to understand how our investment in these fantasies works. And we can't get that without some kind of reworked notion of the unconscious. We have to get at psychic investment in fantasy if we want to understand how people read the virtual as immaterial.

NG: A common thread that runs from the 'Manifesto' through to *Modest_Witness* is the idea that all forms of life and culture are becoming increasingly commodified. In *Modest_Witness*, for example, you describe in detail the global commodification of genetic resources, and with this the commodification of life itself. This would seem to run against recent vitalist attempts to look for creative processes in life. Instead, you argue that patents reconfigure organisms as human inventions (Haraway, 1997: 82) and, alongside this, genetics becomes means for programming the future. In this reading, life becomes a site of power as well as creativity. In the 'Manifesto', you refer to Foucault's notion of 'biopower' (1991a: 150), and in *Modest_Witness* declare that the cyborg inhabits 'a mutated time-space regime' of 'technobiopower' (1997: 12). What exactly is 'technobiopower'? And do you see any hope in vitalist opposition to the commodification or branding of life forms?

DH: Many questions there. Foucault's formulation of biopower remains necessary but it needs to be enterprised up, so to speak. Foucault wasn't fundamentally immersed in the re-worlding that the figure of the cyborg makes us inhabit. His sense of the biopolitics of populations has not gone away, but it has been reworked, mutated, trans-ed, technologized and instrumentalized differently, in a way that makes me need to invent a new word – technobiopower – to make us pay attention to technobiocapital and cyborg capital. This includes getting it that the bio- here is generative and productive. Foucault understood that the productivity of the bio- is not just human. He understood that this is about the provocation of productivities and generativities of life itself, and Marx understood that too. But we've got

to give that a new intensity, as the sources of surplus value, crudely put, can't be theorized as human labour power exclusively, though that's got to remain part of what we're trying to figure out. We can't lose track of human labour, but human labour is reconfigured in biotech-capital.

The effort to produce other terms – technobiopower and material–semiotic – is another way to get at these multiple partnerships that are the source of wealth, and the source of the transformation and appropriation of wealth and of the reconstitution of the world in commodity forms, every-where and all the time and not always by enclosure. The figure we often used to tell the story of commodification is an enclosure of a commons, but it isn't enough. For example, genomes are not being enclosed (or not only being enclosed); they are coming to be out of the action of many players, human and not. Genomes are generating news kinds of wealth and, as Sarah Franklin and Margaret Lock (2003) put it, new ways of living and dying. Enclosure is too narrow a metaphor. You can't understand technobiocapital through 18th century agricultural commodifications. There is a whole lot going on besides enclosure.

We need other figures for understanding what sorts of things go on in commodification, where the cracks are, where the liveliness is. Is this vitalist? I don't know. It's not vitalist opposition. I think it's about getting at it in a more Foucauldian spirit than vitalist opposition. This means inhabit-ing the generativities for understanding that all is not oppression and strengthening them, building the alliances, making the kin networks. I talked about kin as affinity and choice, and people correctly pointed out that sounded too much like everyone rationally made choices all the time, and that's not good enough. There are all kinds of unconscious processes and solidarities at work that aren't about choice. Inhabiting technobiopower and inhabiting the material–semiotic configuration of the world in its companion species form, where cyborg is one of the figures but not the dominant one, that's what I'm trying to do.

NG: At one point in *Modest_Witness* you talk of the possibility of building new universals out of 'humans and non-humans'. Underpinning this project is the idea that 'Boundary lines and rosters of actors – human and nonhuman – remain permanently contingent, full of history, open to change' (Haraway, 1997: 67–8). Alongside this, however, is the idea in the 'Manifesto' that information is the new universal, and that what makes transversality across animals–humans–machines possible is the sharing of similar underlying protocols and codes. This is perhaps a problem, for once everything becomes codeable and can be placed in a 'field of difference', then all life and culture share a structural similarity. Thinkers such as Jean Baudrillard (1993) have described this situation as 'the Hell of the same', in which otherness all but disappears. Is this a worry for you?

DH: Yes, absolutely it is. I think in the 'Manifesto' those sections about a newly made and non-optional universal were not about a desirable situation,

but about a threat. I think a lot of folks read those sections as if that's what I am for in some odd way. That was never so. I was inhabiting a nightmare descriptively, not stating what I think is relentlessly the case. Non-optionally we are required to live in that nightmare. It is the nightmare which has been made real, but it is not a nightmare which has to be, and it is not the only thing going on. So inhabiting the nightmare is not to give in to it as if that is all there is, but as a way of getting that that's not what has to be. Even while understanding that the nightmare has to be dismantled, it's not merely a dream. Actual practice is being made to work that way.

How do you get into it? How do you stop it? Not by simply repressing everything – passing more and more regulations against it – you know the bio-ethics at the end of the line type of approach. But how do you get inside the apparatuses of generativity, including understanding the pleasures and possibilities? How do you get inside it with plenty of refusals, but not just refusals? I think Baudrillard gives up somehow.

NG: The way I read it is that it is almost as if everything becomes transversal because it shares something that can be exchanged.

DH: Yes, it is as if he ends up believing in this fantasy nightmare of free exchange.

NG: I think what he does then is to look for forms of singularity that can't be exchanged.

DH: Yes, but he gives away too much, I think.

NG: In relation to this I would like to ask you about your conception of the 'informatics of domination'. In one of the most striking sections of the 'Manifesto', you list a number of features associated with the shift from the old 'hierarchical dominations' of the industrial world to the 'new scary networks' of the information age (1991a: 161). The most important of these seems to be the meta-transition from 'white capitalist patriarchy' to an 'informatics of domination'. What exactly is an informatics of domination, and in what ways do you see a shift beyond forms of power tied to race, capitalism and patriarchy?

DH: I used the term 'informatics of domination' because it got me out of saying 'white capitalist imperialist patriarchy in its contemporary late versions'! It was also a provocation to rethink the categories race, sex, class, nation and so on. The categories don't go away, they get intensified and re-done. Maybe we should stop using the nouns. On the other hand, you can't just stop because racializations are going on fiercely. New forms of gender – as well as old ones – are among us. You can't just give them up. On the other hand, the term 'informatics of domination' does two kinds of work for me. It makes it harder to do anything as a list of adjectives and nouns. It

forces us to remember that these forms of globalization, universalization and whatever-izations that work through informatics are real and intersectional.

The networks aren't all-powerful, they're interrupted in a million ways. You can get flicker feelings: one minute they look like they control the entire planet, the next minute they look like a house of cards. It's because they are both. And a whole lot is going on that is not that. So, it's about trying to live on these edges – not giving in to nightmares of apocalypse, staying with the urgencies and getting that everyday life is always much more than its deformations – getting that even while experience is commodified and turned against us and given back to us as our enemy, it's never just that. A whole lot is going on that is never named by any systems theory, including the informatics of domination.

NG: This is very much in line with your stance in the 'Manifesto', where you refuse to see technology in either positive or negative terms. On one hand, for example, you outline the new 'integrated circuits' of military or capitalist power, along with the hyper-exploitative labour practices that characterize the new media age. On the other, you stand against the idea that domination is the necessary outcome of technological development (1991a: 154). In *Modest_Witness*, meanwhile, you position yourself on the 'razor edge' between the '*paranoia*' that 'the bonding of transnational capital and technoscience actually defines that world' and 'the *denial* that large, distributed, articulated practices are in fact luxuriating in just that bonding' (1997: 7). Do you still position yourself in this way?

DH: Yes is the short answer. How could we not be terrified and in some kind of collective paranoia where we see nothing but connection – this kind of paranoid fantasy of systems? Clearly this is a nightmare and itself a fantastic configuration which is part of the trouble among us. But at the same time you can't deal with that either by techno-blissed-out 'Let's just go for downloading human consciousness onto the latest chip' and get rid of pain and suffering that way. And you can't get rid of it by denial of various kinds – the next version of humanism or reformism or 'nothing's really wrong'. Something is really seriously wrong and yet that's not all that's happening. That's our resource for remaking connections – we're never starting from scratch.

NG: In thinking of power in terms of connections, it would seem that it becomes increasingly effective by concentrating 'on boundary conditions and interfaces, on rates of flow across boundaries, not on the integrity of natural objects' (Haraway, 1991b: 212). This means, in turn, that resistance – if we can call it that – might play out through the breakdown of communication, or in the formulation of codes that prevent the easy translation of all cultural-natural forms. In light of this, is noise – that key term in cybernetic thinking – of increased political significance?

DH: Yes, I think it is. Some of the phenomenologists in Chile in the period before Pinochet were interested in breakdown. This is an extraordinarily

interesting place, where you get at things that aren't working and where the fantasy of perfect communication isn't sustainable. Maybe because of my Catholic inheritance of fascination with figuration, I'm interested in tropes as places where you trip. Tropes are way more than metaphors and metonymies and the narrow orthodox list. Noise is only one figure, one trope that I'm interested in. Tropes are about stutterings, trippings. They are about breakdowns and that's why they are creative. That is why you get somewhere you weren't before, because something didn't work.

NG: Alongside this, you give a prominent role to 'dreamwork' in your work. You say that this is not the form of dreamwork associated with the Freudian unconscious (2004: 323) but rather an attempt to map out how things are and how they might be otherwise (what you see as the project of critical theory). This imaginary encounter with otherness seems to lie at the heart of what you call 'critique' (2004: 326). How does critique, defined in this way, play out in the 'Manifesto'?

DH: I suppose there is a kind of fantastic hope that runs through a manifesto. There's some kind of without warrant insistence that the fantasy of an elsewhere is not escapism but it's a powerful tool. Critique is not futurism or futurology. It's about here and now if we could only learn that we are more powerful than we think we are, and that the war machine is not who we are. You don't have any ground for that, it's a kind of act of faith. But it's also an act of acknowledgement about what your life is like, not just your own life but a kind of ethnographic sensibility, too, that whenever you do deep hanging out you get it that folks' lives, even in the worst of conditions, aren't done, they're not through. You have got to be at risk for getting at how people's lives aren't done, they're not just flattened ever, even in the worst of conditions, but they're burdened.

NG: Your idea of dreamwork as critique also raises interesting questions about the connection between theory and fiction. When I first encountered Manfred Clynes and Nathan Kline's early essay on 'Cyborgs and Space' travel I thought it read like science fiction, with its emphasis on altering 'man's bodily functions to meet the requirements of extraterrestial environments' (1995: 29). Similarly, at the outset of your 'Manifesto' you follow a similar path by defining the cyborg as 'a creature of social reality as well as a creature of fiction' (1991a: 149). Later, in *Modest_Witness*, you describe transgenetic organisms as 'at once completely ordinary and the stuff of science fiction' (1997: 57). Does this imply that there is no clear dividing line between 'social reality' (whatever this may be) and fiction? And what of (social) theory? Is this simply another form of fiction, or is it something that should be treated differently?

DH: Well, it's another one of these ways for me to try to get at what I experience in the world, which is implosion. The dividing lines try to sort things

out well enough, sometimes for good reasons. There are sometimes good reasons for sorting out the difference between social reality and science fiction, but we should not actually believe that somehow these categories are ontologically pre-established different things.

NG: So are categories and concepts fictions?

DH: They are always provisional. If one means by fictions made up, then no. But if one means by fictions what I try to describe in *Primate Visions* (1990) – active making – then yes. Fact and fiction have this interesting etymological connection and fact is this past participle – already done, and fiction is still in the making. If one means that by fiction then yes. The reason I'm having trouble answering this question is because it assumes that social reality and science fiction, or fiction more broadly, are just there, and then there is this dividing line and that the line can be removed at will.

NG: Not necessarily. I wondered how you conceived of this.

DH: I have trouble answering the question because of the syntax of it. Part of what makes the world real is the semiotic work – including the dream-work – and Clynes and Kline are a great example. They were actually involved in real projects, in an institutional environment of multiple real projects. Social reality was being made to happen there, and it was fantastically dreamworked.

NG: In the context of the 'Cyborg Manifesto', then, when you say that the cyborg is a creature of social reality as well as a creature of fiction, it is never an either-or but always both.

DH: Yes, it is always both. This doesn't mean that you shouldn't do a little sorting work, but you remember that it's sorting work.

NG: Just to continue on the question of method. In a recent interview you speak not of static categories or concepts but of 'thinking technologies that have materiality and effectivity' (2004: 335). What are such technologies? And on perhaps a different note, you also appear to stand against what you call the 'tyranny of clarity' that continues to govern research today. Why is this? Part of the reason, I guess, is because you are looking for complex connections, dirty ontologies . . .

DH: And the relentless alertness that the world is about tripping, that communication is about tripping, that all language is tropic, including mathematical language. Quantification is itself an extraordinary practice of troping that is very powerful and extremely interesting. It ought to be nurtured and sustained. A lot more money should go to mathematicians. The tyranny of clarity is about the belief that any semiotic practice is

immaterial. It's the same mistake as thinking that the virtual is immaterial. It's the mistake of thinking that intercourse, communication, conversation, semiotic engagement is trope-free or immaterial. Again, it's that ideological commitment.

NG: And thinking technologies? What are these and how do you put them to work?

DH: I think all sorts of things fit into that category that we've already been talking about. But let's try to name a few of them with a little more boundary work, and draw a few more usable boundaries around them. I think that training with my dog is a thinking technology for both of us because it provokes through the practice of us coming to learn how to focus on each another, and do something that neither of us could do before and can't do alone, and do it in a rule-bound way by playing a specific game that has arbitrary rules which allow you to play, or to invent something new, something beyond functional communication, something open. In fact, that's exactly what play is: a game given a safe enough space to do something that would be dangerous otherwise. Dogs know that when they do a play bow – they get you do to something they couldn't do if they didn't do the play bow. They've given a meta-communicative signal to their partner that they're not going to attack them. It is read that way, and so it creates an interesting free space where the players get to do stuff that forms them up as material–semiotic beings that are otherwise to the way they were before.

   Play is really interesting, and we humans are far from the only ones who do it. My dogs and I have this training practice. It's a thinking technology, partly because it makes me understand what Charis Thompson (2005) calls ontological choreography differently, and it makes me get at material–semiosis differently and think linkages and inventions. But this is just a tiny little domain of thinking technologies. I also think ethnographic practices are thinking technologies. I think almost any serious knowledge project is a thinking technology insofar as it re-does its participants. It reaches into you and you aren't the same afterwards. Technologies re-arrange the world for purposes, but go beyond function and purpose to something open, something not yet.

NG: Perhaps a dialogue can in this sense be seen as a thinking technology. I'm thinking, for example, of Plato's symposium, and the way that you never enter a dialogue at the same place that you leave the dialogue, for things change through the course of it.

DH: Exactly. Dialogic work is exactly that. It's not about dialectical synthesis, except provisionally and partially.

NG: A further key aspect of your methodology is what you call 'pragmatics', which as I understand it refers to an attempt to make connections between,

for example, objects, species and machines, and to follow these connections in detail to see how they work. You give the examples of 'chip, gene, cyborg, seed, foetus, brain, bomb, database, ecosystem' and say that 'They are densities that can be loosened, that can be pulled out, that can be exploded, and they lead to whole worlds, to universes without stopping points, without ends' (2004: 338). In this approach, the 'relationship' is taken to be 'the smallest possible unit of analysis' (2004: 315). But how do you suggest such work proceeds given that relationships between the above entities are not endless but constantly changing? What difficulties do you see in studying connections between entities that are evolving at an accelerated rate? Is there not a danger that such research will be increasingly behind the times?

DH: Things are changing fast and I believe that's a fact. But I believe there are lots of continuities that we forget if we get a kind of euphorics of speed in our thinking. There is a Virilio-esque euphorics of speed aspect of cultural theory that misleads us. I'm just as struck by the thick continuities as by the profound re-shapings and the rapid flickering changes that are taking place. I think we need to pay attention to the thick continuities as a kind of prophylactic against the euphorics of speed as a cultural aesthetic or as a cultural-theoretic aesthetic. That's one thing. The other is that we don't need methods so much as practices, and we're already engaged in them.

Besides, I don't think for the most part we actually choose what matters to us as intellectual workers. I think we somehow come to terms with what we are called to do. There is some kind of sense of ethical, intellectual, physical calling to respond to what we find ourselves to be, where we find ourselves to be, and with whom we find ourselves to be. I think this is a kind of ethical question of responsiveness rather than about choice. It's not so much about choice. I don't think we sit down and decide what's important very much. I think we somehow come to terms with what's going on, and the method of working is relentlessly collaborationist.

So, if you sit down and look at my little kin group – chip, gene, cyborg, seed, foetus, brain, bomb, ecosystem, species – it's collaborationist. We must take it really seriously that nobody does it all, and we do our citation and performative practices that way. We figure out how to recognize and to build 'we's as method. That's the practice, including holding on to heritages – not letting people forget that we still need to read Weber, for example.

NG: Yes, what you just said reminded me of Weber's calling or *beruf*.

DH: Exactly. I think that we get too impressed by the euphorics of change and pay too little attention to what actually grips us and to which we must respond.

NG: Finally, one thing has always intrigued me: in what way is the 'Manifesto' indeed a 'manifesto'? This text has always seemed very open to me,

and quite removed from the dogmatic or normative assertions that usually lie at the centre of manifestos. Indeed, you have described yourself as 'one of the readers of the manifesto, not one of the writers' (2004: 325). Twenty-one years on from the publication of the 'Manifesto' how do you think it lives on as a 'manifesto' in the political sense?

DH: In a straightforward way, one of which is the ongoing serious joke of being in a lineage, and of trying to come to terms with my ongoing inheritance from reading Marx, or reading the *Communist Manifesto* more narrowly. And some of it is the literal tradition of manifestos, which returns us to Lenin's question of what is to be done? Who are we, when are we, where are we, and what is to be done? In that sense the 'Cyborg Manifesto' is in a political tradition, and I keep reading it that way. It is an open text because of what that manifesto says about the world, a world without vanguard parties. It's not so much 'workers of the world unite' – though it is also that, along with the far from obvious task to figure who the workers of the world are. That's a burning question – ask anyone who's trying to build effective labour unions these days. But for me it's more 'companion species of the world unite'. I suppose in the 'Cyborg Manifesto' I would have said 'Cyborgs of the world unite'. But now I'm trying to use that unsophisticated term – companion species – that too many folks want to mean Deleuze's despised old lady with her small pet dog.

   My feminist friends and others in 1980 thought the cyborg was all bad. That's a simplification, but that was the reigning attitude towards science and technology among my buddies. It was too much either a kind of unsustainable realist, quasi-positivist point of view about science that believes that you actually can say what you mean non-tropically, or an anti-science back-to-nature program. The 'Cyborg Manifesto' was a refusal of both these approaches, but without a refusal of an ongoing alliance. The 'Manifesto' argued that you can, even must, inhabit the despised place. The despised place then was the cyborg, which is not true now. In a way, the despised place now is that old lady with her dog in Deleuze and Guattari's chapter on 'Becoming-Animal'.

   I refused to read Deleuze and Guattari until last year. I'm a very recent reader, and now I know why I refused to read them. Everyone kept saying I'm a Deleuzian, and I kept saying 'no way'. This is one of the ways women thinkers are made to seem derivative of male philosophers, who are often their contemporaries – made to be derivative and the same, when we are neither. My Deleuze is Rosi Braidotti's feminist trans-mutant, a very different kettle of fish (e.g. Braidotti, 2006).

NG: I've noticed this tendency in Latour.

DH: He's been called to account on it many times. He's reformable, he'll come round! In print, he cites Stengers now, and Charis Thompson, and Shirley Strum, and even me (e.g. Latour, 1999). The citation practices are

not symmetrical, but here the exchange is real. But many still imagine that feminist thinking came from what I will call 'Deleuze-equivalents', who are sometimes our intellectual companions, sometimes not, and sometimes simply doing something else. My little rebellion has sometimes been refusal to read them. More to the point, in daily life I read those with no public names – yet – much more carefully. That's partly the non-optional labour practice of a teacher. The reading and the citation practices have somehow to be brought into synch. Reading Mary, Astrid, Gillian, Eva, Adam, Jake, Heather, Natasha, and many more – this tracks my line of flight better than a genealogy. These are the names of companion species all asking, 'What is to be done?'

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