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Cyborg Spaces and Monstrous Places:

Critical Geographic Engagements with Harawayian Theory

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*"[The] subjects are cyborg, nature is coyote,
 and the geography is elsewhere."*
–Donna Haraway

Abstract

Donna Haraway's contribution to the theorization of feminist, post-structural and radical geographies has been immense, and critical scholars working across the spectrum have drawn on her work as part of larger projects rethinking the epistemological and ontological foundations of modern geography. The purpose of this conversation, held at the 2010 AAG meetings in Washington, D.C., was to bring together a diverse field of geographers who are currently engaging with Haraway's work. We hoped to foster this conference space in order to share research and to grapple with the possibilities and limitations of Harawayian thought as it has and continues to open up new spaces across the discipline – both theoretically and practically. To that end, we welcomed panelists that engage with any aspect of Haraway's work, and encouraged participation from a wide variety of geographic sub-fields, including, but not limited to: anti-essentialist feminist research praxis, cyborg politics, relational ontologies, hybrid epistemologies, impure landscapes, god-trickery, inappropriate/d others, companion species, and (non)human/techno-bio-nature-science relationships.

MH: Based on feedback from the panel members we are going to have three twenty to twenty-five minute discussions dealing with different, but of course related, aspects of Haraway's work. The first one will be on 'concepts', and Leesa and Jim will be guiding that discussion, and then we will talk about 'methodology and practice' with Emma and Traci, and then finally we'll talk about 'technologies' with Ann and Jim. To wrap-up, my co-chair, Matt Wilson, will offer a few closing comments. So with that, why don't we go around the circle, and if you are on the panel you can start introducing yourself quickly. Jim would you mind starting us off.

JC: I'm Jim Craine from Cal State, Northridge. I do a lot with media geography, but reference Donna's work a lot – especially the monstrous. We have a paper coming out that we're editing for a media geography book, on the use of *Videodrome*.

MH: Ann, I think you're next.

AO: I'm Ann Oberhauser from West Virginia University where I am professor of geography and recently took over as director of the Center for Women's Studies. Given my positions in both an academic unit and a service-oriented field, I'm interested in the intersection of theory and practice. I've also done work in feminist geography and am conducting research on the use of computer- mediated communication among young adults.

ER: I'm Emma Roe from the University of Southampton in the UK. I guess I think of myself as a nonhuman geographer. I've done a lot of research around food and agriculture. More recent work in animal geographies and animal studies has renewed my interest in Haraway's work. I'm very interested in embodied practices (2006) and where embodied practices take our studies when conceived as the way we perform relations with nonhuman others.

TW: I'm Traci Warkentin at Hunter College. I have a lot in common with Emma, and I'm sure with a lot of the panel members, in that Haraway has strongly influenced my work on human-whale relations, especially through feminist epistemologies of having an embodied standpoint and doing your research from a very embodied standpoint. Also, her notion of nature cultures has really been important to how I conduct my research, which I will give an example of later in this session. When Emma and I met yesterday to plan our introductory comments on methodologies and practice, we talked about including animals as participants or even collaborators in research, and that's been really largely inspired by Haraway's work.

LF: I'm Leesa Fawcett from the Faculty of Environmental Studies at York University in Toronto, Canada. I consider myself a feminist; I do feminist materialist work. Donna Haraway sort of saved my life in the sense of not knowing where I belonged or who I was in conversation with and then I stumbled upon *Primate Visions*. I was originally trained as a biologist but now I do more environmental and

cultural studies, particularly human and animal studies. It really made a profound difference for me to find Haraway's ideas and critiques, not that I agree with her all the time, but to find someone to read who is crossing back and forth between these ideas of naturecultures. The first time I met her I was amazed because she actually talks exactly like she writes. I'm like "Oh my goodness, it's breakfast time and that's how you're saying it?" I was worried about pretentiousness and yet I found her to be such a generous scholar, especially with graduate students. I've really enjoyed being able to read her work and I've read most of her work. I'm looking forward to a discussion with other people about how they've taken up Haraway's contributions.

MH: Alright, well we're just going to have to ask you to be patient with this room and to try to project your voice. Leesa and Jim, have you talked a little bit about how you're going to start us off today?

Concepts

LF: I'll go first. Jim and I are introducing 'concepts'. I latched on to Haraway's ideas around *naturecultures*. I think one of the things about naturecultures is that it assumes human-animal cultures aren't divided to begin with, but that they continue, and they seep into each other or differentiate and break off abruptly or swerve together connected in some ways and then out of our sight. I want to ground this concept somehow, so I am going to use an example of pigs.

I've been doing some research on human and pig relationships. When you think of our human use of pigs, food comes to mind, coupled with the cultural taboos around eating pork, and it is easy to see how entwined pig lives are with nature and culture. Then moving on to the biggest use of pigs we arrive at factory farming. It's one the most common and ubiquitous things we do with pigs. What does that do to their lives, deaths and the different laws and cultures that define them as subjects and objects in the commodification/corporate relationship we have with pigs on factory farms. Also, I've written a few papers on xenotransplantation and the use of pig parts in humans and what that means for the humans to have a pig part in them, and for pigs to be raised and genetically modified for "spare" parts for humans.

Some of the arguments in the literature have been about how many pig parts do you have in you before you're not human and more porcine; where does humanity end and the line sort of slips over. That for me is intriguing to consider, and I've recently been reading about Creole pigs. Of course in Haiti, they had these extraordinary Creole pigs, big hearty versatile looking pigs. They required very little care; almost every single family had them. They could drink polluted water, or 'differently cleaned' water. And they could scavenge really well for food.

Baby Doc Duvalier made a deal with the U.S., and it's interesting because it was underlined by the fear of viruses and swine flu. But this was back in the 1970s. So a U.S. brokered deal was made to have Baby Doc kill all the Creole pigs, all the Haitian pigs, and to replace them with U.S. imported pigs, which required U.S. imported food and U.S. standards of water cleanliness. Subsequently and tragically all the U.S. pigs died, it was one of the shortest known life spans of a pig population. They died very quickly and people were left without their Creole pigs and without any pigs at all. In Creole, they called the imported pigs, 'little princes', because they required so much care. For me it's a fascinating example of these pigs across naturecultures. When you look at Haiti and the earthquake tragedy that struck there, and wonder what could have happened if they had a reliable food source in terms of sustainable agriculture—i.e. if they still had a relationship with an indigenous pig to get them through these hard times. That was my first little thought around nature-cultures. I'll turn it over to Jim.

JC: I wanted to hit on the nature thing but kind of more how we portray nature now. I'll get to this more when we talk about 'technology', but especially through how we use GIS now as this kind of cyborgian hybrid type of way to interact with nature.

I wanted to quote a little bit if I could. If anybody's familiar with, "The Promises of Monsters" article, which actually references Jane Goodall, which is why I thought it was appropriate for this. And she was talking about, how modern technology has kind of removed the Tanzanians themselves from the landscape. You know at the time when Goodall went there in 1960, and made it into this kind of modernist – still with the aspects of colonialism, but just in a different way. So this is the quote, one of the quotes that I wanted to say, and she's talking about the theory of this and she says, "The theory is meant to orient, to provide the roughest sketch for travel by means of moving within and through a relentless artifactualism, which forbids any direct sightings of nature to a science fictional speculative factual science fiction place called simply elsewhere."

And that's what this article was about, and she's talking about, just to paraphrase, from my perspective, how these new landscapes of the monstrous have been created through technology and how our interactions then with nature have been radically changed.

My engagement particularly comes through the concept of technogenesis, where society is driven not by the evolution of humans but by the evolution of technology. And so I'm going to move this right into computers, as an optical instrument, as a way to portray nature. Originally, Haraway talked about these instruments, they weren't used anymore to portray distance, but as a mode of connection as a way to embody nature and to create an imagined space that we could now engage with. And again this was 1992 so things like GIS were just at their initial beginnings.

And she goes on, and this is the other quote I wanted to read; this was right at the introduction to the article in quoting. "I have high stakes in reclaiming vision from" which she calls the great word "the techno pornographers," "those theorists of minds, bodies, and planets who insist effectively, i.e. in practice, that sight is the sense made to realize the fantasies of phallocrats. I think sight can be remade for the activists and advocates engaged in fitting political filters to see the world in the hues of red, green, and ultraviolet, i.e. from the perspectives of a still possible socialism, feminist, and antiracist environmentalism in science for the people."

I think that's a really telling comment in that we don't want the science of the visual, again from my perspective, to be in the hands of simply those who create it and more and more create it unknowingly, without any reference to its final consumption by users of that data and so forth. There's kind of at least, I'm throwing this on you there was four things that I thought might be interesting to talk about in terms of conceptually, how we would break ourselves away from the paradigm of science and technology of paradigms of rationalism, you know through Donna's philosophies and theories, and how we can refigure everybody, the actors if you will, in the construction of this ethno-specific categories of human culture. In this case I was referring only to mapping technologies because we attempt really to map nature. It is there for our representation of nature so how we can reconfigure that to make it, not as rationalists, but as hopefully critical geographers that want to express the true – well, not the "true," but a more equalized and noncolonialist view of nature.

And then third, productionalism, which again for me as media geographer is a very important concept here, comes down to a story line that basically, and I'm quoting Haraway here, "Man makes everything, including himself, out of the world that can only be resource and potency to his project in active agency." And so what we're saying is then the production – it's about man as the toolmaker and also the tool user and they're not necessarily anymore one in the same. We're operating at two different levels where consumer really has no idea what producer has made or more importantly, how and why the producer has made it. And so, again, it's becoming this more hybridized space of both consumption and production, but where the two parts of the monsters of the hybrid, have no knowledge of each other really except perhaps in a capitalist sense. And then lastly, again through the production and the consumption, bodies are objects of knowledge that are both material and semiotic and these are generative nodes. It's important for producer to know that, but it's also important for consumer to know that and I think Haraway's concepts fit really well into this and gives us a broader engagement I think with how our spaces of nature are progressing in geography.

mw: At this point we have about fifteen minutes that we can engage the audience or panelists can respond to these issues of 'concept' in the room. If there are others

who would like to chime in from the audience or from panelists to think about the various concepts that we use or enroll from Haraway's work, this would be the time to do so.

AM1: I was just wondering, looking at the concept of the 'uncanny valley'. Do you know if that is being used at all in Haraway's work, or do you know what that is? The 'uncanny valley' – it's used a lot by those who do digital representations of the human body. It's sort of like when you represent the human body but at a point where you're between 96% and 100% active in representation and you enter what we would call the 'uncanny valley'. Which means that it actually ends up being grotesque or monstrous – in the way it's perceived visually by others, psychologically, like by children with cartoons. And so, I was just curious if anybody has worked with that concept because I'm starting to look into that and trying to bring it into conversation with Haraway's work.

MW: I think that's one of the brilliant things about Haraway's work. There's so much conceptual 'stuff' that she packs into almost every paragraph that could easily spin off into various different projects. I think she imagines herself, conceptually, as a very grounded understanding of certain kinds of geographies or realities. And these could potentially be conceptualized into broader projects that she may not even be tracking or tracing.

AM2: One thing I was going to add on I think you had brought up the idea of the optical instruments and I can't, this was a long time ago so I can't really remember what the specific phrases are, but I thought that was one of the coolest concepts I'd ever come across just because it had such a spectrum of application. I think you were speaking about it a lot more in terms of technology and microscopes, telescopes, computers, and GIS. But what I like so much about it is thinking about how our own gendered, raced and classed identities, all those parts of who were are, can be seen as part of our optical instruments with which we interact with the world and which we see the world. I really like to see that as a continuation all the way through to technology. Our theoretical frameworks are part of our optical instruments.

I come from a human biology background and now I'm a geographer and I was never either extremely scientist or nonscientist, but somewhere in-between. But what I really like about her is that she engages with science in an extremely serious way. I feel like too often in geography there is an extreme divide between those who are scientists and they really take it seriously, and then there's a whole set of people who are like, "Oh, numbers, that's horrible. You're so dominating with your science." And I think it's really neat that she will seriously engage with the assumptions and practices of science and say okay maybe some of this is a good thing but we have to expose how there is a lot of domination and subordination in it. I just like her goal of finding a form of science that lays bare all of the sort of domination and subjection and works toward taking science seriously.

MH: Yeah, I think what is the expression that she uses? You have to find a way to do science that portrays it as the 'iffy' project that it is, but that still is something that is taken seriously - that you take seriously and that others can take seriously, and that has stakes and consequences. That was a very bad paraphrase; she puts it much better.

I'm interested in picking up on something that's I think in both your introductions and that's the idea that Haraway always pushes back against the ideas of purity and authenticity. I'm thinking about it in terms of the pig parts and the purity of the body and that whole discourse of purity, impurity, vulnerability, and penetration and so forth. And then going towards thinking about technology and the divide that you talked about between the producer and the consumer of technologies. I'm wondering if that kind of pushing back that Haraway does against authenticity, against purity, arguing against the discourse of purity and authenticity is a way in which to give the science back or to use the science as a way to create new subjectivities. And just to give a very mundane example, I teach labor studies and the whole course is to reacquaint the students with how the things they use everyday are made. That kind of breaking down those walls, one after another can be a very painful process, but I find that documentary films are one of the most effective technologies in which to do that. But at the same time we have to have the discussion of how documentary films themselves are constructed as artifacts and that they're telling a story and there's a narrative and so forth. So that's just something I wanted to throw out in terms of thinking about purity and authenticity because I've been obsessing about that lately.

ER: I keep thinking about what you said about this 'uncanny valley', and about how Haraway in 'When Species Meet' develops Karen Barad's work on matter's 'intra-activity' (2007) and its readiness for entangling. In other words practices are intra-acting with processes of matter to generate materialities. And in the case of the 'uncanny valley' it seems we have an example where the human-machinic assemblage generating human-like robots which draw an ever closer likeness to the human, to generate in humans the affordances (Roe 2006) of a sensual response less akin to generosity for the life generated but one instead increasingly tinged with disgust. I wonder about the phenomena that is the outcome of this entangling of matter, practices and materialities that generate the affects of disgust. What can we learn about the specificities of this assemblage that is generated and is responded to in different and changing ways? How does this assemblage usefully lead us to ask questions about what it is to be human?

AMI: The way I'm using it, actually, is to argue against use of images of dead bodies. It actually has a psychological effect of dehumanizing, which we are apparently psychologically constructed to be averse to that because it's a dead human, right? So in the gaming industry there's sort of an idea of crossing the valley. Because

apparently if it's 95 percent accurately human and below, we notice humans react to it as being something that's not real, but between 96 and 100 percent accurate – we can debate what's "accurate," of course – you react to it in that averse way because we identify it as human but not something wrong with it, like a dead body, like the grotesque or the monstrous, I mean that's how I wanted to think.

TW: I think I've heard that, and this might be wildly off topic, but the *Polar Express* animated feature was really not successful: it was too close.

AM1: And *Shrek* apparently, originally when the focus group tested it, kids were horrified and like crying. I don't know the film, but the one character, the female character, looks so real but not quite real enough and so they made them more cartoon when they released it so that it wouldn't frighten the children away from watching it.

AM3: And the physiological effects that people experience watching films like *Waking Life* and it actually is sort of nauseating.

AM1: People have like a physical, visceral reaction to it.

TW: Part of the monstrous, you know, is that it is based on a material authenticity and we respond to it with our own bodies in such strong ways.

AM4: I keep thinking though that Haraway would push back against the idea that there's another side of the valley. And so why don't we confront the world as grotesque because it's always partial, it's always in process and mediated as we experience it. That's a really troubling question. Part of it is that there's a construction of things as natural. I think part of what Haraway's trying to do is to destabilize that type of idea, of the natural.

AO: Can I just pick up on something that Jim was saying about the use of technologies like GIS and nature, and the divide? It's been fascinating to me at the conference to go to some of these climate change sessions, both from a really scientific, hard science, perspective, but also with Joni Seager's sessions on gender and climate change. The panelists were kind of questioning a lot of this so-called scientific approach to controlling and dominating the environment around global climate change. Joni raised questions about the 2 degrees Celsius issue, calculated as the temperature change at which global warming could be stabilized if CO_2 emissions are halved by 2050. Apparently it's connected to a lot of controversial issues around who are the winners and the losers of climate change. But anyway, throughout that discussion there were a lot of questions about how we're controlling, or are attempting to control, nature through some geoscience technologies: like big mirrors in the sky and the desalinization of the ocean/estuary areas. So it's been kind of interesting to ask questions about how and why we should be trying to dominate nature, control nature in that sense.

MW: Yeah, I feel that Haraway forces us with her concepts to be very careful about throwing out objectivity entirely. It's always from a partial or modest or situated objectivity that I think really allows for a greater sense of practice when it comes

to actually being engaged in scientific or positivist processes. She's not necessarily wanting us to throw out data or throw out facts or throw out objectivities, but she's wanting us to recognize their situatedness, which I think is a really a powerful way to engage in scientific work.

mh: Because everything comes from somewhere doesn't mean it's all equally good, I think is one of the ways in which she makes that argument most effectively.

mw: That "to be 'made' is not be 'made up'" (Haraway 1997:99).

mh: So many quotes.

er: How do you respond to the fact that you are perhaps making something? That's the real tricky question Haraway poses, to ask how are you able to respond to something you're making? Alternative worlds could equally have been made. How do we know which is the best way to respond to the world in the making? How are we meant to work that out? I think that's where some of Haraway's writings on 'partnerships' (2007) is useful, it helps us to think thoroughly about how you sustain relationships with a thing, matter, and this in turn may help us consider different ways in which we can practice and in turn guide our response to generate different worlds through these partnerships. This leads me to wonder about the climate scientists – how flexible are they in their scientific world-making practices?

mw: I think this is perhaps a good point to shift into the second theme for the next 25 minutes or so, around 'methodologies and practice'. Do either of you, Traci or Emma, want to take the lead?

Methodologies and Practice

tw: When Emma and I met yesterday to chat about how we would introduce the theme of methodologies and practice, one of things that we both thought was important to talk about was partnerships in world-making.

er: Yeah, because I guess from *When Species Meet* you get a strong sense for how she thinks about her partnerships with other animals and from our personal experiences as researchers, I think we both would argue that you need to spend time with the things that you are studying. It can't happen that quickly, to be able to realize that something is changing because of some kind of causal effect.

I'll tell the story about this dog. I just heard this story on the radio over the weekend (BBC 6music 2010); it was told by the experimental performance artist and rock musician, Laurie Anderson. She was talking about going for a walk with her dogs. She walks her dog in California, America, a two-hour walk every day, going down to the coast and she has this lovely dog, some beautiful breed, I don't know. And the dog and her would always be there the dog would be sniffing the ground and taking real interest in running ahead and looking back and so there was a kind of interaction between them in this daily routine. And then one

day the narrator, Laurie, noticed that there were turkey vultures in the sky. And they seemed to be kind of swooping down low above the dog running ahead and then suddenly as they dropped lower they would stop and hover. And the dog suddenly realized that, it appeared to be realizing that there was a threat, she looked back at her owner and you know, suddenly this kind of look of fear came over the dog's face as she realized that she was acted on as prey. And those turkey vultures were misjudging the dog thinking the dog was a rabbit, but that she was too big for them to get. So there in this event a new kind of relation developed between the turkey vultures and the dog. And the next day when they went down there for the daily walk the dog stopped looking down at the ground and was at a completely different gait looking up into the air, like nose-pointed. The narrator, Laurie Anderson was saying she realized she'd seen that look before; it was after 9/11 when the people in New York started looking up into the air. They realized a threat could come from above. But the point I want to make about methodology is that it is only through actually being with the nonhuman object of study, in this case the dog, enough times, going through the same event over and over again, that you can actually notice change and actually see a change in response of the animal to their environment. So what do you want to say about the whales?

TW: I'll backtrack a bit just to give some more context to how we got to that in our conversation and bring in some of the points that have already been made about situated knowledge and situated knowledge-making practices. I think Donna Haraway inspires and has talked at length about the ethics of knowledge-making. She challenges us to recognize all of the biases and the cultures and natures that are embedded in knowledge-making practices, and also that research has to come from a very embodied standpoint: to actually be in our bodies and recognize our human stereo-vision, and everything that was already articulated about a research subject, and to take into account our own personal histories, how past experiences and cultural immersion shape our thinking and how we even frame research questions.

But that fleshy embodiment counts as well, and I think it is even more critical, when we think about engaging with other animals or doing research with other animals because our main mode of communication has to be nonverbal. So, we have to be even more aware of our bodies and the gestures and the postures that we're making and that awareness really comes through sustained relationships where you get to know each other's bodies and then you can notice much more subtle changes in that as well. It can also be a standpoint, and Emma and I talked about an ethical standpoint as how you are in the world, how you are in your body. Whether you're doing research with animals or whether you're just engaging with anyone, other people, other humans for that matter. That can be the place where you start to do your research, the place where you start to engage with the world or engage in ethical world-making practices.

And where this has come into my own research is largely in how I conduct fieldwork. I've done a lot of empirical field work looking at human and whale interactions in captive environments, mostly large aquariums like Sea World, swim-with-dolphins programs, and then where dolphins have come to meet humans really on their own terms up in Western Australia. It was really important to me to have a focus on the embodied kinds of interactions that were happening between whales and humans, and so my methods had to be designed to record interactive movements. I chose to record video as my primary mode of data collection. I took a lot of video and I decided specifically not to interview the human participants, because I didn't want to privilege human language or to allow for a kind of removal from the immediate experience where, you know, you have had the experience and you sort of remove yourself from it and talk about it in this human language. And it was really important for me to at least attempt or to strive as much as possible to foreground the whales as equal participants in the research. It wasn't just humans talking about the experience and what it meant to them, but that I could try to approximate what the experience was like for the whales as well. Trying to find methods and practices that would accommodate that was a large part of the work itself, before I even got into analyzing what it was that I was seeing. This is, I think, a good example of how I have been influenced by Haraway's work, of how I have tried to put it into practice.

ER: When you read Haraway's work a lot of it is human/animal stuff. But also, human/human studies can also benefit from her work. I first started using this work actually when I was doing research in China, where I am a very English non-Chinese speaking, white, Western woman. I witnessed visiting a Mongolian farm where farm workers are so swaddled up and covered that you can't even see their facial expressions. And it was so stark, the relationship that I was able to have with these cashmere goats who recognized me as human and would actually come up to me and respond to me whereas in comparison the workers – dressed that way because of the climate up there, appeared to have no way of relating to me, they didn't obviously even acknowledge my presence. And this just made me think that Haraway gives us "when species meet" but we can also think about "when cultures meet" and how bodily performative gestures actually communicate a lot to us about how we are being related to. And this made me think, can you do this work without including the body? Is this a methodological terrain that can only operate through taking seriously the body?

AM5: I just wanted to complicate this. To return it back to animals, when the animals aren't accessible. Donna Haraway focuses a lot on the ethics of the encounter and encounter-value. I want to love that, but part of me, because I did some research on cougars on Vancouver Island, where we don't really want to see them and they don't want to see us, so what then? Is it impossible to cultivate an ethics

or knowledge when there is no body-to-body encounter? When that's sort of undesirable, to provoke species?

TW: I think that's an imaginative encounter though, that informs your ethics. And you have to become so aware of all the other cues and signs of their presence and non-presence to be able to behave appropriately in a way to avoid them, so that it's safe for everyone. So I think that really engages your embodied imagination.

AM5: That was actually what I ended up coming up with sort of was that you have encounter with the trace of the cougar – and them with your trace.

ER: This is where the idea of using video comes in. Both of us have used video in our work as a way to destabilize power relations (Kindon 2003), For example, I did some ethnography on a farm last summer and I had with me a camera that takes both stills and video. It acted as a way of note-taking. It is a much easier and more accessible way of recording events, when working as a researcher in situations where it is impossible to write notes. Short video clips give you richer data than the single eye watching an event could ever engage with. Through repeated viewing a close visual analysis between gesture, object and language (Laurier, Strebel and Brown 2008) can support understanding of how human-nonhuman assemblages come together.

TW: Emma and I also talked about, especially in participant observation, the notion of your own body being a research tool or a research instrument, and a very valuable research instrument. I've been inspired by a lot of work in phenomenology, applied phenomenology and cultural phenomenology. What I've taken from these fields has been particularly inspired by people like Thomas Csordas (1990, 1993, 1994, 1999), who is a medical anthropologist, and Elizabeth Behnke (1997, 1999), a practical phenomenologist. They really engage their bodies as research instruments, as research tools, to really open themselves and be receptive and attentive to the bodies of others that they're engaging with or trying to understand. Then they also use the body in some ways for analysis to comprehend or apprehend meaning, the sense of meaning in the movements, gestures and interactions of others. So it comes back to your own body, giving you access to some limited form of understanding others. While you're not necessarily able to climb into their mind and know what they're thinking, you can get a sense or approximate meaning and thereby also work out what are appropriate ways of interacting because you're so attuned to the response that you're getting. I mean this brings us back again to just those immediate kinds of encounters or immediate forms of collaboration which doesn't work in all cases, but I just wanted to also throw in an anecdote that I heard recently that really speaks to Donna Haraway's commitment to these partnerships in world making and animal collaborations or research collaborations. Typically, on the University of Santa Cruz campus, animals other than humans are not allowed in any of the buildings, but she was able to register and list Miss

Cayenne Pepper (her canine companion) as formal research associate. So now Miss Cayenne Pepper is allowed to enter the building and go to Donna's lab and her office. That is a very bold commitment for her, a precedent to set about the collaboration of animals and of them being really active in research and knowledge making. I think the most profound part of that is acknowledging Miss Cayenne Pepper, the dog, is really part of the knowledge making process and we have so much to learn from them and *with* them.

AM6: I was listening to a podcast, speaking of technology. I haven't read the book but the podcast was about this philosopher; it's called *Philosopher and the Wolf*. He adopted this wolf and for a couple of years, they weren't sure if it was a dog or a wolf. Then he realizes that it was a wolf and he couldn't keep a wolf at home. So every time he was going to class, I think he was at UCLA, he started bringing his dog to class, and his justification was I cannot leave him at home, because the house will be just a terror. But what I found fascinating, because this term I'm teaching a course with five hundred students and being obsessed with kind of stuff like trying to understand if everyone is kind of attuned or attentive. Because it's really hard, I'm obsessed, I want to make sure that they're all with me. They complain about me last year that I move around a lot. Anyways, but what he was saying in that podcast is that every time he would take his dog, his wolf, to his lecture, at the moment his lecture becomes boring he starts howling. Like crazy.

LF: How does the wolf sense that?

AM6: I don't know, he says he cannot understand, but he kind of felt like attuned to how he was reacting, like when he was really interesting he would just sit down and be mellow; at the same time he becomes very monotonous he starts howling. And one thing, I was listening and I don't do work on animals, but I have two animals and I'm originally from Turkey. I'm now living in St. Catherine's, Ontario, close to Niagara Falls, and I have a dog and a cat and I talk to them in Turkish. And I have two neighbors who called on me saying that, "Why are you speaking your dog in Turkish? Now you're in Canada." And I'm like "because they're not colonial subjects." [laughs] She was just like, "You are weird." But I thought that, it's not only about our relationship with animals, but also how other people are commenting on our relations. And another book that I recently picked up, but I haven't read it because it's the end of the term. Kelly Oliver has a new book on *Animal Lessons: How Animals Teach Us to be More Human*. I admire Kelly Oliver's work and I think there's so many parallels with Haraway.

AM7: Have any of you worked with hierarchies between humans and animals? I was just thinking of an example like demining practices that are done with dogs. Mainly because the dogs can sniff out plastic charges, where you can't do that with metal detectors. But as far as how they're treated and trained is often very different and they have better facilities in some cases than humans. Although they don't have

the same sort of bodily protections, because they're seen as sort of more disposable, although it's more expensive. It's very fascinating, I don't know if anyone's sort of looked at the sort of hierarchies between like the bodily subject as a human person or animal around certain activities are seen or perceived.

ER: I think here about the lifestyle of the chimpanzee that played Cheeta in the Tarzan films (BBC News 2006).

TW: There was a recent article, I think it was in the *New York Times* called "Dogs of War" that brought up exactly those issues that you just mentioned. I know there's a fellow who's actually in an English department, Ryan Hediger, who is writing a chapter called "Dogs of War." I think it gets at the hierarchies, but not through a fully embodied discussion. So I'm not sure.

LF: Yes, I know they've used dogs for a long time in war zones; they've used dolphins to decommission underwater bombs, and they use pigs in Asia a lot to smell and find land mines, apparently they're the best at it, taking apart the mines. And they are expendable as you say, but at the same time you've got famous dogs in the British museum, one of the only statues of a dog is as a war hero. So we use them in war and in commerce. Dolphins were represented on Greek coins because they were revered for saving people. They would save drowning people. But we also use them to kill; dolphins were trained in the Iraq War to kill enemy divers, and they were trained to attach explosives to submarines, and they were used as killing devices.

I'm going to change the direction—see if it works or not—but one of the things I really liked about Haraway's concepts is her metaphorical method of diffraction as critical consciousness. I think it goes back to the earlier comments by Maureen Hickey about Haraway's resistance to stories of purity, and her commitment to permanent partial identities; like they don't have to be fixed. And this has helped guide me in a way, where Haraway (2000) talks about diffraction as critical consciousness because it reorients the horizon for interdisciplinary methods in all sorts of studies. Because unlike mirror reflection, diffractions leave paths of difference. Also, it goes back to the 96-100% "uncanny valley" and the monstrous discussions, I was thinking. To the purity point that Maureen was making, that unlike mirror reflections, diffractions don't displace the same elsewhere. Haraway discusses how with diffractions when "light passes through 'slits' the light rays that pass through are broken up. And if you have a screen at one end to register what happened, what you get isn't a reflection, but it's the record of a passage of those light rays." (2000, 103). And I think so much of her work is about that, the tracings, of what people said, the smells, and signs that are the record of the passage between subjects, natures and cultures. Considering and problematizing that record of the passage as a method is productive. So I find the journey of diffraction method to be quite useful that way.

MW: Yeah, I agree. I found diffraction primarily through her collection on cyborgs and technoscience (Haraway 1997). So much of her work has a critical or radical sort of impulse, but I feel like diffraction for me really helps me communicate that to others. And in terms of what and how particular projects that are registering these historical records are actually all about changing the possibilities for new forms of knowledge-making. I feel like diffraction allows us to not feel disenabled to engage in these kinds of knowledge-making practices, but it just requires our responsibility to their adequate sort of use, I guess.

LF: There's a radical hopefulness to it.

MW: Right, yeah, I agree.

ER: I think Haraway's hopefulness is also present in how she plays with different ontologies that are formed through partnerships. In her words to intra-ontically, intra-antically generate new partnerships. She offers us a politics orientated towards making new worlds. Geography's interest in ontology we can perhaps understand as motivated by the environmental crisis, and a need to think possible other worlds, generated through thinking differently, and by practically carrying out our being in the world differently.

MW: Has she written a methodology? I feel like it's there, right? I feel like people who enroll Haraway often tend to sort of mimic her language; it's easy to slip into that Harawayian moment. I've always wanted to find a piece or an interview where she just discusses how she begins to conduct her research or how she presents herself with particular problems to be thought through. I'd be curious if anyone has read methodologies or an interview that would discuss her work, her actual practices of doing research.

TW: I think what comes closest for me, at least in what I've come across, is *Primate Visions*. In it, research method and the ethics of knowledge-making are present the whole time. I think there's a conversation going on with Haraway (1989) in *Primate Visions* about methodology, but yeah, it's not explicit. I've never seen it laid out.

MW: And perhaps she would run away from that question entirely, like "I don't do that."

MH: It seems that she turns the question back in on itself. There's an interview with Penley and Ross (1990) on "inappropriated others." She does talk more about the sort of ways in which attempting to create new kinds of positionality and methodology can trip you up. She talks specifically about the coyote figure and the problem of appropriation from other cultures and that's why she's chosen the cyborg.

It's interesting because going back to the discussion of recognition that, I think it was Emma who was talking about in Mongolia, and the need for recognition - and whether that has to be bodily or not - I think is something we could debate. But the need for some kind of recognition between beings whether they're human-to-

human or human-to-nonhuman. And that I think for me is the key methodological question that she raises for me; how do we create that recognition so that a real connection, a real exchange, is possible without creating some kind of hierarchy or relation of domination. And I don't know that she has the answer to that. I think that's one of the most provocative questions that she raises. And maybe this will lead into the technologies, but I'm interested in thinking about that. You do research online, right? There are ways in which people do create that recognition without their bodies actually present, so there's some kind of proxy body that's involved. Because I work with transportation workers, I think about it even in terms this machine that you get in and operate as an extension of yourself. It's much less elegant of the computer, but I wanted to connect the two parts together.

AM4: One of the most difficult things for me in *When Species Meet* is that chapter on her father and how she talks about his wheelchair as a companion species. That really transforms the idea of what's really at stake when she's talking about her relationship to Cayenne. There's all sorts of prosthetics, and then, going back to situated knowledges. She really pushes me to get away from an essentialized notion of the body as somehow integral.

MW: Which has made her unpopular, right, amongst certain feminist geographies. I think similarly her work around, in the chapter where she goes from "Thou shall not kill" to "Thou shall not make killable." I think she offended a number of animal rights activists. So it's sort of fascinating how she tries to engage in a kind of post-feminist, post-animal rights politics without really raising that particular banner over her head.

Well, maybe from here we should go on to the last section of this particular panel. We're going to discuss 'technologies'. And if Ann and Jim want to make some comments about that before we go into this section.

Technologies

AO: So, our research examines how young adults use information and communication technologies to develop and maintain social relationships. We're engaged in an empirical study and theoretical work, an interdisciplinary project working with a psychologist, communication studies, and a feminist geographer. The project explores how college students in particular are at the forefront in the use of these technologies, as anyone who interacts with teenagers and 20-year-olds knows. We're looking at four specific channels of communication, social networking, texting, email, and phones, and how they're being used to develop relationships with friends, family members, and romantic partners. It's fascinating to see how they develop and maintain relationships, and also present and develop their identities using these different media. In some cases they are more comfortable

using technology to communicate than face-to-face communication. So we're looking at physical presence, i.e., face-to-face, versus computer mediated, in developing relationships, and how they're kind of negotiating a lot of these different positionalities.

Very briefly, that's what we're looking at, both from a psychological, but also from the perspective of mobility and physical presence. What we found is, through some of our preliminary research, in many cases our participants are more comfortable communicating with people about certain things through these devices. So it's almost as if behaviors or norms around communication have to do with their comfort level with these technologies. That of course changes who they're relating to. Those are some of the cases we're exploring – the negotiation of different relationships through these technologies. That's one point.

The other point I wanted to raise is in regards to methodology. We use standard type focus group interviews, face-to-face or in person, and we're using some online surveys. We're also able to compare how methodologically they're responding via some of these online surveys or online aspects versus some face-to-face. So even in our methodology we're using the technology and face-to-face interviews as well. I found that some of Haraway's work on the cyborg or our use of machines has really influenced our exploration of these questions and even the methodology of our research.

JC: To kind of go along on with what Anne was saying, we're at this kind of praxis with biotechnology. You know, where the cyborg has kind of changed from Haraway's original vision, from where it was seen as this combination of man and machine. Cyborg now has become a little more seamless in the sense that our engagement, especially with the virtual, we've kind of like, connected in such a way that the mechanistic part has almost disappeared. Because technology has allowed it to do so. And that has changed the way that the articulation of nature or anything, any knowledge, has been made. And again I want to draw on a comment, she says, "Biotechnology's in the cyborg subject. The world must always be articulated from people's point of view through situated knowledges. These knowledges are friendly to science, but do not provide any grounds for history-escaping inversions and amnesia about how articulations get made, about their political semiotics, if you will. I think the world is precisely what gets lost in doctrines of representations in scientific objectivity." And I think that's so true today where again, and just because this is where my work is now with qualitative GIS, it gets lost in that because you know you can't portray the world objectively. You just can't.

And when you do that, has anybody read David Nye's article on the Grand Canyon or visualizing the Grand Canyon? It's this great article about how the Grand Canyon, up until the early 1900s, it was just seen as a giant worthless hole in the ground, until somebody had the sense to climb to the top and take a

photo. And the photo gets printed in newspapers. And it's seen again you know because photography's new; it's seen as a scientific truth if you will. Now there is no objectivity because the reason it was done, because Roosevelt wants to make it a national park. But he was able to do that because, "Oh we have this!" Sure, let Europe have the Alps, but we have this, this is ours. And it becomes, you know then the Grand Canyon, and becomes one of our greatest natural, I guess it's a resource, in an economic sense. And so importantly then through this cybernetic connection, because it's done seamlessly over time, the way we started to engage with computers has dramatically changed the creation of knowledge. And I think Haraway's concept of the cyborg is certainly applicable here. And so I think what happens is the monster's body now, is this disembodied thing that floats around. And you can be whatever gender or range of genders you wish to be. And so you are able to demonstrate this through your interaction with space. And it becomes to quote her, she says, "This is an effect in the symptom of the neoliberal information society." It allows us to do this and we accept it unblindingly, except us here of course.

And so it brings about this change in the concept of the cyborg, because this notion of the machine-body has been supplanted by these notions of the networked, emergent, dynamic, and biotic body identities. And especially in communicating information streams, again via data, but also as Anne said, social networking. The whole concept of a social relationship has, in essence, become cybernetic because it's the machines doing the interaction, not necessarily us. The cyborg then is not only implicated in the interface between the organisms and the machine, but also in the fantasies of the hybrid, the monstrous in synthetic machines, like clone digital network and cellular bodies. And so GIS and especially more and more with these social networking sites, it takes the cyborg back as a starting point to study these. And it's a new way to look at this, if you start to apply Haraway to this machine-human interface. And this gives you a nice engagement with it, I think.

And again, it's to somehow bridge the space between producer and consumer. And so each one has some awareness of that engagement and you're not producing a product without any knowledge of how it's going to be used and the consumer now has some engagement with the production itself. And so we get to this point where cyborgs are not just cybernetic organisms, these link-ups between humans and machines, because that's usually if you ask somebody out on the street that's usually how people identify it with. It's much more than that. And so the concept of the cyborg body is something new and something even more artificial – this technoid mixture of machine and body, if you will, or human and body.

We reference video games, especially as we get more and more immersive. We went to an unveiling at UCSB; I think they called it the Geosphere: this

three dimensional, wonderful interactive, it's like a Cinerama-dome. You go in with these goggles, but it portrays all your information in 3D. And it was totally immersive and it's, to me it was just like right then as soon as I walked through there I said, "Well, this is Haraway come true". She's seen the future and this is it. And you know, they have a lot of money there so that's why they do this. But I think eventually it'll become a part of any school's GIS program as the production of knowledge involving yet another dimension. I'm going to use the word fantasy because I think anybody that produces geographic knowledge, using GIS, that's what you're projecting, your fantasy, what you want nature to be. And so therefore you know, you're not objective. So having an awareness of that machine-human interface through Haraway's work, I think gives us, as perhaps people that are engaging GIS, a little bit more critical awareness – much to the disdain of those produce it, who certainly don't want to be looked at critically because they seem to attach great importance to what they do. It's a new aesthetics too, which I think is important, which is something that's overlooked through Haraway's work. She has great application to art, because art is part of cartography. So I think if we learn how these virtual possibilities are unfolding through an engagement with Donna's work, I think that provides us with more alternative ways to look at it, both critically and non-critically, I think – scientifically and non-scientifically.

MW: Other comments for the panelists about technology?

MH: Doesn't West Virginia have something similar?

AO: We do, it is called The Cave. It's a 3D GIS with applications in virtual reality. They use it for some historical recreation of the local landscape in the downtown area. The project focuses on specific buildings and architecture in virtual space and through an historical context.

AM4: Is that a reference to Plato's *Republic?*

AO: You know, I had never thought of it that way!

MW: I also study technology, and I find it difficult to know, based on my read of Haraway (Wilson 2009), at what stage it is appropriate to engage directly in either the development or the implementation of a particular technology that has a very complicated or potentially violent history or future. One of the ways that I think through that is, as an educator, in my courses where I teach GIS. I find it part of my responsibility to also inform them of the variegated histories of these particular tools and technologies, and the various uses that they have been applied to, while at the same time that I'm trying to teach them which button to click and which menu to open. I think that's, for me, my own way of dealing with the guilt that comes with engaging in a project that has a very difficult and complicated history. I'm curious if others who deal with technology in their work have a similar approach. For some of us, it's about writing that sort of two-paragraph reflection in your methods of the research – "I realize this has been used for x and y and I

understand that this is very complicated, however this is what I'm doing". And so I wonder if others have had similar issues with enrolling particular technologies in their work.

JC: Can I add to that, adding to what was said about, "Thou shall not make killable"? Because it gets to that whole thing about the production of knowledge being used to program cruise missiles, for example, which is something departments do. Our department at Northridge is basically training people that fly the Predators. And, so again, I think, there's issues with that. I'm not a Haraway completist, so I don't know if she's ever addressed how the cyborgian thing can be literally not theoretically or science fictionally, but how it can be literally used as a killing machine.

LF: We both just said "OncoMouse". Remember the work she did on OncoMouse?

AM8: Yeah, she takes up that same thing, that while we can look at these things as potentially positive, they have this materially disastrous use.

JC: Which one's that?

AM8: *Modest Witness* (Haraway 1997).

LF: When you were both talking, I was thinking about genetics, because I teach about technology, culture and nature, and I use genetic literacy as a stepping stone for students. It is so hard because you deal with genetic purity, the history that's been done with genetics, and then to get all the way up to trans-genetics where we have glowing marmoset monkeys that have jellyfish genes that will reproduce, or like OncoMouse, which will reproduce a cancer disease reliably in all their offspring. Well, there's a lot of ethics to that, right? And I tie it to human bodily history in Canada; there's been a horrible history of sterilizing people with disabilities. And it's recent, it's not that old, so for young students when you say the last province that stopped forced sterilization, I think was Alberta in 1972 (via the Alberta Sexual Sterilization Act of 1928), that wasn't that long ago. So they can see the Othering in place, around genetics, subjectivity and human-to human encounters, the actual ethical fault-lines stand out. Just as you say, Matthew, when you go through the variegated history of where a technology and its tools have gone wrong you then ask where does it go from there? That's my favorite part to teach.

MH: I think Haraway would argue that the stakes are too high not to be engaged in that kind of research and that production of knowledge. If you just leave it those who don't have 'the guilt', who don't have the questions, then that's an abdication of responsibility. I come at it from a very different perspective, my training is in international development so basically in policies that go in and do a myriad of different kinds of interventions in "third world countries" and it has a horrific history and continues to. And actually being in Washington D.C. this week brings up a lot of both good and bad feelings about that because this is where I did that kind of work. But you know, the way that I have tried to walk that

divide, and Haraway has helped me, is again in the teaching - in that my students want to learn about, they want to make the world a better place, they want to do that by going elsewhere, you know geography's elsewhere, and helping people less fortunate than them. And my responsibility is to disabuse them of some of their assumptions about what that means. It's a very fine line because you can quite literally see the light die in their eyes if you're not careful. So you want to keep them hopeful enough that they can go forth and enact positive change while at the same time making them complicit and aware of their complicity in these discourses. So that for me, I mean that doesn't speak directly to technologies, but it's a different kind of technology of power, I guess some can say, a political technology of power. But I find that to be one of the most difficult questions that Haraway does help with, but she never gives you an easy answer, and that is what also I like about her.

AM9: This is from outside of Haraway, but in the last few days, everyone is talking about Ananya Roy's new book, and her concept of the double agent in the development community, of someone that is trained in all these ambiguities that Haraway would have us look at and still engages in creating these practices of change. And I really do feel like it goes beyond technology to all of our practices.

LF: It goes with the development work, and it's a bit of an aside, but you just reminded me of it re; change, resistance and colonization. Homi Bhabha has a story and a friend of mine, Ilan Kapoor (2003, 2008), has taken it up in his work, and it's a chronicle about when the missionaries were first going to the villages in India and were trying to Christianize the people. The Indian villagers read the Bible and said, "But it's not vegetarian; we need a vegetarian Bible". And the missionaries were so thrown off by it, like they were so taken aback by this form of human resistance to animal commodification. Homi Bhabha talks about it in terms of resistance, right. This won't do. We need a vegetarian Bible. So that was the end of that. The bible didn't catch on right away in that place.

MW: In thinking across the thread of these three concepts, I feel like earlier work of Haraway around the cyborg (1997) demands a different practice than her later work, in the nature-cultural work of *When Species Meet* (2007). And I'm sort of curious for those of you who are engaging in animal studies or studies of non-human interaction, do you see a difference in the ways she writes about response and responsibility, which is more difficult to think about when you think about studies of technology, I think. It's a different response, I guess, or a different responsibility that you engage in when you're engaging with animals or you're engaging with folks who are also engaging with animals. I'm wondering in your own work, are you thinking similarly about that?

TW: The first thing that popped into mind, just as you were speaking, is reciprocity. When I think of the cyborg, even of the cybernetic, I see it so much more as

these extensions of the body or prosthetics. Whereas, with companion species, I think fundamentally it's about reciprocity. That's not to mean that there isn't or shouldn't be reciprocity with technologies, but it's not as intuitive for me as it is when I'm doing work in animal studies or thinking about naturecultures in that way and engaging with other animals.

ER: I guess because I've been doing a lot of study of farm or food animal – human relations, I do actually see food animals as biotechnological products. Significant human biotechnological intervention is made in the production of food animals – artificial insemination, large-scale incubators, mutilation of animal bodies – the scale and size of the production is impossible without biotechnological advances that have been made. So here I differ from Traci. I always try to not think about humans as an isolated subject, but instead always 'with' all of these other things; 'with' implying both material, social, political and ethical relations and connections. For example the matter we eat sustains our bodies, how and what we eat and with whom constitutes our social, political and ethical relations with other humans and nonhuman animals. And these biotechnologies, which generate the cyborg, extend the sense of the human and so modern food animals we must accept as extensions of the human to the point that they constitute what we know as human; they are part of us.

And now to turn to the point about 'making kill-able'. I spent a morning in a hatchery, where chicks had just hatched and needed sorting through. By sorting I mean identifying the ones that have got maybe three legs or a crossed beak or that haven't properly hatched and killing them. I didn't do any of the killing because I was not experienced enough to perform a 'good kill', but I was with the person who was, and I was very struck by how she spoke to the chicks that she was about to kill, she spoke a language of care. Was this to cope with it? To comfort herself? Perhaps this is a space where the logic of care is prevalent in the act of making something kill-able. In other spaces different logics no doubt come to play a significant part in making something, person, animal kill-able or performing ones part in assembling a killing-machine. I wonder how this observation relates to the practices of making kill-able in other examples, like the GIS work mentioned already? Within the daily work of GIS knowledge producers whose work is used for training Predator pilots is there any less of a sense of what killing-machine you are assembled within? What logics govern the making-killable in these spaces? What can we recognize as ways of coping or comforting the self that is part of this assemblage? Again I think this would involve spending time with those working in these roles, they can't be completely blind to their involvement. Returning to the research in a hatchery, the interview with the hatchery worker was not the space for understanding this, it could only happen by being present through the event, by witnessing her saying: "It's okay, it's alright, I'm here, I'm here, I'm here"

as she presses with her thumb on the neck of the chick placed on the edge of the table and thus making the chick dead. However the meaning for her in her role in this killing-machine was intensified when she wouldn't let me witness when she put trays of live chicks into the macerator. I did however take a photo of the bag of chicks all macerated up. I think Haraway would encourage us to think through how she has learnt to perform her response-ability when carrying out those practices (Greenhough and Roe 2010). As Haraway argues "try as we might to distance ourselves, there is no way of living that is not also a way of someone else dying differentially" (2007:80). How can we be more attuned to how those people performing those jobs are coping with it and to put ourselves 'at risk' by sharing in the suffering presented in these practices?

AM10: So what's the rule about distance and scale when you are teaching these technologies to your students? I know I think about that a lot, with predator drones. There's a sort of distance that the technology allows, so that you're not adapting to that moment of having to cope.

MW: And I feel like in her work on the cyborg, Haraway (1997) is strongly encouraging us to rethink virtual versus material boundaries. That even in the virtual or in the distant technological encounter, that those encounters are indeed immanent and material, that they are proximate in ways that we can't necessarily see geographically, but they are proximate and intimate in ways that demand a particular kind of ethic or particular kind of method. So I feel like in Ann's work about exploring the face-to-face versus the technologically-mediated communication, Haraway would probably ask that we constantly think about issues of distance or intimacy or potentially rethink what it means to be distant or intimate in these technologically-mediated encounters, that I think is very similar in animal studies. I can see the connection, I guess, in animal studies where we're trying to also think about these proximate moments of encounter that are also technologically-mediated in different ways.

LF: Matt, I think that's absolutely right; it goes back to Jim's point that the cyborg is morphing into more of a seamless piece. I mean it is more seamless than it was at the beginning, you know so when I think about endangered species stuff, like where is the ivory-billed woodpecker? I wonder: where is it really? Who has the "authentic" picture of it? Did they make that, or was it a Photoshopped picture?

AO: It's fascinating. We all come from our own positionalities and subjectivities, and you know some people have no clue or sense of a relationship via cell phones or Facebook pages. However, for other people, they've been immersed in this for years. So anyway, what I'm finding in their responses is how they view this relationship. In fact, one woman who we interviewed had this relationship with a partner, and they communicated purely via text messaging. She would not phone him, and they had never met face-to-face yet she called him "her boyfriend". It was very

bizarre, and she said talking to him was very awkward and she couldn't relate to him. However, she felt much more comfortable via this texting relationship. That was just the way she would socialize, and the way she developed a relationship via social media. So I think this comes from our own experience or positionality, or how comfortable or not we feel interacting with others through this device.

AM6: But that makes me neurotic, right? For one, this is the generation that's going to take care of us when I'm old, right? The second thing is just like two years ago or three years ago the BlackBerries were under the table – when they were texting while you were lecturing. Now they're totally fine, you're teaching and they're just like, and when you call upon them they're just like, "Well I'm messaging." And you're like, "Hello, I'm teaching!" The fact that certain things are not called out.

Of course some people find him very problematic, but I always go back to Heidegger and his *The Question Concerning Technology*. And I'm like, yes I want people to use GIS, but at the same time I'm also contextualizing the very materials as we talk about capitalism, and I'm again referring to universities. Right now we are pushed more and more toward distance education: students are already in front of their computers; they're on Facebook. It is asked, "Why we not going through this phase of technological advancement?" So we see budget cuts, right. We will not have a face-to-face class; we're getting rid of the seminar system. So I always have a hard time negotiating my own positionality in terms of my relationship with technology. Capitalism and neoliberal mentalities are governing me in a certain way to conduct myself and my relationship with my pets, my students, and other stuff, right? So when I see kids on Facebook, I'm like "oh no!" I'm not on Facebook, so they get frustrated when they can't find their professors on Facebook. I'm like, "I have an office!"

AM11: I think what you're pointing out is that there's a definite cyborgian professor that is emerging. I run an online graduate program, and so I almost never do anything face-to-face. Because a couple months ago, I was in a lock-down session with some of my students, where I actually taught then in person for the first time in a couple years. One of them came up to me and said, "Well, Dr. Newman, this was really kind of awkward because I couldn't fast forward you and freeze frame." And I thought, "Reality, yes, is awkward." As a professor, we need to start asking ourselves, "Is our job the way that we envisioned it?" Maybe we're not meant to 'exist', either, because my students expect me to be this weird avatar. It threw them to have me in reality. And I see that as part of the way it's going.

AM12: I think that brings up an interesting thing. They've restructured and suddenly moved Education into our department, in Cultural Studies. What's interesting there is all the discussions that are going on around primary school teaching and that interaction with technology. They're bringing up all these issues of neuroplasticity. And the fact that children's brains are actually different than ours.

They're doing studies on children's brains, and their interactions with technology has actually had a biological effect on the way that brains are working. They're finding out that ten-year-old kids, and possibly not university students now, actually can sit on their BlackBerry and listen and do all of that at the same, which is something that us as teachers actually can't work with. We can't understand the way that their brains are engaging in that, so how do we mediate that.

MW: One more comment then we'll close up.

AM4: Well I guess that, I always get nervous. I actually have this anxiety about mediation through these very removing technologies. But the classroom is also a technology. The professor and the university is a technology, and it's always been implicated in nationalist and capitalist projects. So it's a question of how do we intervene to achieve things that we think are important within this context? Resistance might be appropriate in some cases, but also co-opting the technology might open up opportunities.

MW: Alright, well, it's impossible to sum up what we've covered today, but thanks to everyone for engaging us in this discussion. I thought I'd select a couple quotes from Haraway to close us out. I've constantly been thinking about *When Species Meet*, and about what to do: what to do next, how do we continue to engage in the various projects we're engaging in? And I was really struck by her writings about morality and responsibility. And so I thought I'd read a little bit from what she said in the chapter three of *When Species Meet*, when she's discussing the tsetse flies and the guinea pigs – which is a moving introduction to that chapter.

So I'll quote her here: "The needed morality, in my view, is culturing a radical ability to remember and feel what is going on and performing the epistemological, emotional, and technical work to respond practically in the face of the permanent complexity not resolved by taxonomic hierarchies and with no humanist, philosophical, or religious guarantee. That means not that a particular animal does not matter, but that mattering is always inside connections that demand and enable response, not bare calculation or ranking. Response, of course, grows with the capacity to respond, that is responsibility." (2007: 75)

Alright, so thanks so much to the panelists. Let's just give everyone a round of applause.

JC: Thank you to the organizers.

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