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Student A

I liked the way Suchman's 'Human-Machine Reconfigurations' chapter provides an informative overview of existing literature on agency and human-machine boundaries. It introduced me to a range of writers and sensitising concepts that have helped understand an ongoing debate as framed within science studies. I feel like I would need to read it several times to fully understand the fine distinctions made. Nevertheless, I found the questions posed on page 270 interesting and provocative.

So what are the possibilities for recovering a sense of particular agencies of the human without at the same time reinstating essentialised human-machine differences? How might we reconceptualise the granting of agency in a way that at once locates the particular accountabilities of human actors, whilst recognising their inseparability from the socio-material networks through which are constituted?

In responding to these questions I like the way Suchman distinguishes her own position from those who highlight the persistence presence of 'human engineers' and 'designer-users' to defend herself against the charge of 'recalcitrant humanism' so well suggested by the imagined criticism: 'Aha, it really is the humans after all who are running the show'. Finally I like the way this position redirects our attention to the need to understand how 'objects are subjectified' and 'subjects-objectified'. However, the material covered that supposedly unpacks this issue didn't quite touch upon what I regard as highly significant for understanding agency in the new media age.

Kress has argued in the new media age everything and anything is open to design. I would add that new media compels human actors to take a more proactive role in designing, customising, adapting and modifying quasi-virtual environments in order to work, play, socialise and interact. As a result humans now enjoy new opportunities to transform the quasi-virtual contexts of their own personal development (individually and collectively). In short, the designability of new media allows human actors to resist objectification. This somewhat utopian way of thinking is influenced Yrjo Engeström's ideas about *expansive transformations* and Dorothy Holland's work on *Identity and Agency in Cultural Worlds*. Critically, both are influenced by Lev Vygotsky who draws attention to the way humans self-regulate their own actions and behaviour from the outside. I'm trying to develop these ideas in order to draw attention to the way young people's expanding access to new media empowers them to take a more proactive role in designing their own social futures.

Student B

Revisiting the "death of distance"

Myers and Suchman both make an important point that increased mediation does not equal increased distance between human and non-human actors. Even though this point might be straightforward and perhaps even obvious to most of us I really appreciated revisiting it through the interface. Coming from urban planning I've always thought of

the “death of distance” in large-scale spatial terms, i.e. cities disappearing because of communications networks. Of course Mitchell, Moss, Townsend, Marvin & Graham, Wellman and so many others as well as our own lived experiences have shown that cities persist despite the availability of more flexible modes of communication. What has taken place, however, is a series of reconfigurations. Just like in the configuration of social and material assemblages there are processes of reconfiguration taking place in cities all the time. Some of the redistribution is the splitting of functions like sales and warehouse uses for example. Other shifts might be new assemblages of human and non-human actors, a robotic warehouse instead of a human-staffed one or an ATM machine instead of a teller clerk. “In sum, the spatial forces set in motion by teleservice are complex, and sometimes tug in different directions at once. They can produce both decentralizing and recentralizing tendencies. They can break the bond between local demand and local supply of services, but they can also reinforce the dominance of established service centers.” (Mitchell, 1999, E-topia, p.125) What Mitchell announces in a rather poetic way seems to actually be coming true both based on anecdotal evidence and hard economic data. Two economists at the National Bureau of Economic Research wrote in 2001: “We argue that the Internet will produce more of the same – forces for deagglomeration, but offsetting and possibly stronger tendencies toward agglomeration. Increasingly the economy is dependent on the transmission of complex uncodifiable messages, which require understanding and trust that historically have come from face-to-face contact. This is not likely to be affected by the Internet, which allows long distance “conversations” but not “handshakes”.” (Leamer and Storper, NBER, 2001)

Even though we no longer assume that telecommunications will replace urban centers there still seems to be a popular concern that increased mediation leads to increased social distance or less sociability. Leaving aside questions about whether we are romanticizing the sociable past it seems to me that there might be some useful lessons from Myers and Suchman for urban settings if we think about the human and non-human redistribution of roles through dynamic reconfigurations. Like the crystallographers, perhaps mediation is actually supporting an even tighter coupling between people and their cities. There are of course researchers like Ito and colleagues as well as practitioners – artists and engineers – who provide a rich view of mediation and the city. Still, I think it might be interesting to see how thinking about the types of processes of reconfiguration taking place at the interface transfer to the urban setting.

Re-enchantment

I’m really inspired by the idea of re-enchantment and the more open-ended discovery of new possibilities in various human and non-human assemblages. I think this point is related to the idea of questioning distance because the re-enchantment emerges through a strong connection with a specific material configuration. Of course I’m thinking of the Merleau-Ponty references in Myers’s paper. One question I have, though, is how do we recognize and then describe these new enchantments? Are they technical or are they social? Do they necessarily have to be fleeting? Where does the possibility for the re-enchantment reside – only within the specific human and non-human configuration or can it reside just in the non-human artifact? How do we think about designing for these re-

enchantments?

Final Thought

Myers presents the physical models as somehow more substantive or real than the digital models. (p.177) I really question this distinction because both the physical and the digital models are abstract representations that simplify or exaggerate different characteristics of the proteins. Because the proteins are invisible to us anyway it seems to me that visualizing them as physical things or in the computer is equally distant from the actual artifact. How “genuine” then is the embodied experience of the biologists – which I think is how Myers presents the descriptions by Diane? I think both the digital and the physical models are more like maps that help the biologists organize and structure their vast knowledge and experience on the proteins.

Final Final Thought

I was struck by Myers's use of craft in explaining the deep entanglement between the scientists and their models. I wonder how this relates to Suchman's (p.262) reference to Ingold (2001): "Ingold's (2001) analysis of skill not as an attribute of a body, but of a system of relations involving the artisan's presence in a specifically configured sociomaterial environment."

Student C

In Myers reading, my main concern is how Crystallographer the handling the scale and their relationships with the protein molecule? Comparing to architect's building model, it's not hard for them to put the 'models-in-the-head' once holding a proper model as representation, since we live inside architecture. Yet, representation of the atomic scale in structural biology requires an extra effort for the researcher to personify their body onto that molecule and having the 'models-in-the-head'.

So, here I have to agree with Diane Griffin (p.177) that despite of the same polemic of digital versus analog model in architecture, the body-work of Crystallographer in that model is essentially incorporating themselves as the member of protein society, for their learning process. The intricate ribbon diagram in p.164 and the lack of three-dimensionality graphic in p.176 clearly shows that hand-embodiment is inevitable. The only significant issue for the role of physical model is not about the material vulnerability, or because it's considered obsolete, but instead it is in pursuing interactivity and flexibility to manipulate and tweak the model (p.175). This is the neglected corner in Myers essay that would be very interesting if she continue investigate the available comparable media for this matter.

Going from Myers reading to the parade of Suchman's proposal for human-machine reconfiguration, it's seems that the most secluded actor in pursuing a mutual relationships is the role of the *artifact* and the *goals* that embedded in it. In seeing the artifact, the only existed object in physical environment is only matter and spectrum of light that comes

from that matter to our eyes. The rest of the artifact is not there but instead embodied in what Suchman says a “Middle Kingdom.”, a land of agreement exchange. (We see a book, not because it is there, but because of the humans agreement on the properties and the goals of the book)

Therefore, I think that one way to rearticulate the proportion of a/dis/symmetry is by pushing the boundary of each subject: human, machine and the artifact, and examine the overlap of their domain. So, it’s not only about how human incorporating their artifact, but also how the artifact incorporates them. And the same goes to machine-artifact relation. For this agenda, it’s always useful to use a reversible analogy: human as a machine, machine as a human, human as artifact, and artifact as machine, and so on, and then reconfigure their relationship in that ‘middle kingdom’.

I believe extending this boundary will not seclude or undermine the role of human/machine/artifact, but instead, will generate an array of intersections, created from that expansion, for more possible mutual agreement between human-machine.

Finally, I quote Myers to conclude what I’ve learned from all that great readings and great discussions from this really great class:

The model belong to his body because in a sense, that is where his knowledge of it lives (p.189)

Student D

Open-ended technologies and affective epistemologies

My reading of Suchman is that central to the argument around human-machine interaction should be a critical view on the narratives of humanness of technology that are so persistently reinforced by AI community discourse and more generally by the larger landscape of technology production. This critical view entails a rejection of simple ‘figuration’ understood as the aim assigned to technological artifacts by the actors involved in their construction to ‘represent’ or ‘enact’ prescribed notions of humanness.

“It was the circular move of writing a cognitivist rationality onto machines and then claiming their status as models for the human that first provoked me to question the notion of intelligent interactive artifacts.” (p.259)

I’m drawn to Suchman's description of us moderns’ tendency to fetishize the products of our technological efforts, to cut their “ties to their sociomaterial relations”, and its reification via a language that “presupposes a field of discrete, self-standing entities” to refer to issues of agency, artifacts and humanness. One step forward is, for a start, to recognize the mutual constitution of humans and artifacts, in a way that the asymmetries (dissymetries, is the term proposed by Suchman’s) are not hidden, but exploited as integral to the materiality of the medium/artifact.

I was interested in the ways in which materiality seems present in the discourse, as something to be used and celebrated, as opposed to hidden. The story of Deirdre, the female cyborg (more precisely a human brain with a mechanical body) serves the argument in the sensitivity with which the technological body is recognized as a different and unexplored territory, -perhaps- fertile ground for new associations and new poetics. Overcoming figuration and ‘figurative technologies’ in favor of a more playful, exploratory, open-ended, less staged and deterministically conceived, technological narratives would be instrumental to not only unfold narratives of authority embedded in technological systems, but to turn technological artifacts into vehicles for a generative re-thinking of the nature of the relationships between humans and non-humans. To make the point clear the chapter relies on examples from both social sciences literature and certain art/design practices which reject narratives of human enactment and embrace the undetermined nature of the media which give humanlike technology its materiality. This embracing occurs pragmatically (Wei’s) or poetically (Deirdre), leaving aside ‘animist’ claims of artificial humanness. The general attitude is reminiscent of Latour’s “redistributed humanism”, a sort of humanism of things, and his ‘non-modern constitution’ where the inseparability of things and humans is formulated.

Consistent with Suchman’s ‘reconfigurations’ Myers’ ethnographic discussion of the model-making work of molecular crystallographers is concerned with showing how scientist’s knowledge resides in their bodies. By making elaborate models they’re not only gaining power and control over otherwise abstract and invisible subjects –the molecules- they’re incorporating this understanding in their own physical bodies. Studies of scientific knowledge are thus insufficient if they account only for the rhetorical aspects of scientific practice and model making, as it is the gestural and the physical where the embodied knowledge of their subjects becomes evident. Common views hold computational models and the processes by which they are created as intellectual and disembodied; this may stem from a tendency to study the rhetoric of such practices, often filled with metaphors of data flows and information, while focusing less on the practices which originate them.

Myers’ brilliance is to bring into focus the distance that mediates between the rhetoric of information that usually accompanies digital model productions, and the very embodied practice of their making. Thus bringing into the discussion of scientific practices concepts such as tacit and embodied knowledge, and challenging notions of the digital as ‘intellectual’ or disembodied. Myers frames this under the concept of a “digital materiality”, and speaks of the “Craft Work of Computer Modeling” and Gestalt Switches (p.185). She calls this sense of embodiment, which becomes a sense of identification with the molecule described by the model, as a ‘feeling for the molecule’, and speaks in a novel way of scientist’s work in terms of an affective epistemology of sorts. It is through the –often painstaking- process of building a three-dimensional model of a molecule in an interactive application in a computer that this process of identification and embodiment occurs: “In this sense, model-building is a means of reconfiguring researchers’ embodied imaginations with knowledge of protein forms and movements.” (Myers, 2008, p. 167) and “To become a crystallographer, a modeler must become its model”. (p.190)

Student E

While reading the Myers text, I was visited in my office by some other MIT students - from mechanical and chemical engineering. They read the abstract of the article and were shocked that I was about to read 40 pages of it. They thought that reading 40 pages about protein crystallography without learning something 'new' about the field was a big waste of time. When I tried to explain the context for me reading the article, and about how it considered the way biologists were engaging with their subject, they made some comment about how 'humanities' tries to 'talk too much'.

Then, in chapter 15, pg 275-6 of Lucy's book is written:

Put another way, now that the cyborg figure has done its work of alerting us to the political effects, shifting boundaries, and transformative possibilities in human-machine mixings, it is time to get on with investigation of particular configurations and their consequences. How then might we locate conditions for action and possibilities for intervention in the specificities of more mundane sociomaterial assemblages?

I would very much like to get started with that! I have become painfully aware of my research environment's techno-fetishism and feature-desire. But I don't know if cyborgs are really done with their alerts to this phenomenon. For many machine-engaged researchers like the students I was talking to, I think that the configuration with humans is still entirely unclear, and the connections between man and machine are still considered an interface to a (at times blackboxed) system. I don't think that many researchers would consider their work as bells and whistles.

Chris Csikszentmihalyi (incidentally my advisor) brought up a similar concern after Lucy's talk on Monday, where he asked how we can ensure that these long-term thinkings and rethinkings actually happen and are not systematically removed from academic endeavours in favour of more 'capitalistic efforts' like Susan was talking about. The corporate funding model of the Media Lab and other places of technological development strongly influence the paths the research go down.

This is of course a larger problem of cross-disciplinary work and its difficulties. Lucy practically pointed out that a lot of different departments are just too busy to actively take on another hall of discourse. I wonder however, if there is some way to increase the incentive to work on these projects with less immediate glitzy payoff.