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Life Itself Meets Liveliness

(Short excerpt)

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This paper takes a close look at some of the stories about lives in science told in the 2009 documentary *Naturally Obsessed: The Making of a Scientist*. What kind of portrait of science and its scientists does this film render? There are a number of narrative threads to follow. Here I'm interested in both the lively materials that the graduate students featured in the film are trying to learn how to model, and their active participation in the practical cultures and moral economies of the lab. I'm trying to figure out the moral of the story. What are the take-home lessons for viewers of *Naturally Obsessed*? On first glance it appears to be a picture perfect rendering of laboratory life in what Nicole Shukin (2009) might call these "biopolitical times." Viewers get a quick gloss on the moral imperative instilled in these would-be scientists as they figure out ways to participate in an economy that values their labour distilling facts about vital mechanisms of living bodies. Here the facts are atomic-resolution models of the three-dimensional structure of protein molecules. These are facts with significant exchange value in contemporary life science. In what seems at first glance to be a picture perfect rendering of biopolitics in action, it is fair to ask whether this documentary is a fair representation of life in this lab. More to the point, what norms about a life in science does this documentary perform?

Elsewhere (Myers 2010) I build on Judith Butler's (1993) theories of performativity and subjectivation, and Karen Barad's (1996; 2003; 2007) theory of "agential realism" to develop a reading of the remarkably constrained masculinities performed in *Naturally Obsessed*. Indeed, one of the startling effects of this intra-actively rendered film is the production of a constrained discursive field that performatively materializes some norms of masculinity and not others. Rather than treating the scientists and the filmmakers as autonomous, self-conscious agents whose actions can be tracked as intentional interventions made by coherent, self-determining subjects, I argue that this documentary is the materialized effect of extended *intra-actions* among the filmmakers and scientists (on "intra-action" see Barad 2007; on performativity in science see Herzig, 2004). This performative approach allows me to track the mundane, everyday enactments that condition and normalize how the characters in the documentary comport themselves. It helps me pay attention to the skewed relations of gender and power that are sedimented in stories where science is figured as a race to be won. The characters who succeed in this context seem to be those who are tough enough and those who are willing and able to get entangled in the taunting, jesting, and jostling relationships that appear to be required for mentorship in this lab.

But there are other threads of this story to track. When I compare this documentary to what I learned conducting ethnographic research among protein crystallographers in training at a different east coast University, I'm left with some questions (see Myers 2007, 2008, forthcoming). The tenor and tone of conversations and interactions in the spaces I worked was quite different. In the labs where I worked I found practitioners who speak in multiple, overlapping, and sometimes

contradictory registers. By contrast *Naturally Obsessed's* characters and story line produce what seems to be a *caricature* of contemporary life in the lab. It performatively reiterates entrenched stereotypes about the sentiments, attitudes and norms proper to a scientific life. This lab appears as a high-functioning biopolitical machine that trains entrepreneurial scientist to *capture* "life itself" in the lucrative form of "biovalue" (Waldby, 2000), to accrue capital, symbolic and otherwise. This documentary is a story told about science by scientists. What I find troubling is that it also seems to play right into the scene sketched by critics reading science through the optic of biopolitics (Rose, 2007; Cooper 2007; Shukin 2009).

What I want to argue in this paper is that there are other stories about science to tell. I'm thinking particularly of ethnographic accounts that can break the spell of those just-so stories that always seem to reproduce more of the same. The aim here is to recalibrate analyses of biopower and biopolitics in such a way so that our analyses don't reproduce the same kinds of stereotypes about scientists as those effected in this film. My aim here is to multiply and amplify the varieties of sentiments and attitudes that scientists can and do cultivate in relation to the living worlds they study. Here I pay attention to the ethos and habitus of scientists in training to document wavering impulses, expressive gestures, disciplined and undisciplined bodies, and the ambi-valent figurations of life that they generate in the process. Here I'm less focused on the economic value of facts, and more on the values, norms, and sentiments that contour the practical cultures in which facts get made.

Overall I hope to show that fact and value in science are not fully determined by biopolitical imperatives and economies of exchange. In the "ecology of practices" (Stengers, 2010) that I document ethnographically, I show how relations among life scientists and the "life forms" they study are ambi-valent. They waver; they are shifting, unstable, and in flux. I examine a range of forces that constrain the discursive field in which the characters in *Naturally Obsessed* perform. The larger aim of this essay is to examine wider contexts of contemporary life science training. What *moral and affective ecologies* condition discursive fields in other contexts, particularly those laboratories where science is not figured as a race to be won? I take the reader to fieldsites where I have spent a number of years working as an anthropologist tracking pedagogy and training in protein crystallography and biological engineering laboratories.

In order to break the frame of dominant narratives I amplify less pronounced dimensions of the moral and affective economies in the life sciences. I extend Donna Haraway's (1994, 1997) attention to the conjoined material and semiotic processes through which bodies and meanings get made. Specifically, I examine how scientists use their own bodies as proxies to render living bodies at the molecular scale. I track scientists' "body-work," including the performative gestures, affects and tropes through which they figure and refigure life at the molecular scale (see Myers 2006). This attention to body-work opens up insights into the sentiments, attitudes, and postures that researchers cultivate with the lively materials they study. Do they render them as deterministic machines, or as more wily bodies? How do they come to stand in relation to living phenomena? Does a laboratory's ethos and the habitus of its scientists-in-training inflect which figurations of life come to stand? Under what conditions might other figures of life flourish?

My aim in this essay is to tactically amplify the wide range of affective registers through which scientists come to figure life. I pay close attention to the various ways they articulate their relations with one another and with the living phenomena that organize their inquiry. In order to document these other ways of seeing/feeling/knowing, I inquire into pedagogical contexts where scientists and

scientists-in-training can be found policing one another's actions. These are good sites to see what "forms of life" and "life forms" are in the making, which come to *matter*, and which are disavowed. Which are marked as disruptions that must be contained? And which are allowed to propagate alongside dominant forms? This essay tracks the multiple, contradictory, and sometimes incoherent *forms of life and figurations of living substance*, with an attention to the ambivalences, disruptions, irruptions, slips, and counter-narratives that thrive inside life science laboratory cultures today.

Thus this essay attempts to map a range of ways that fact and value are entangled at the nexus of power and knowledge. Thinking with Michelle Murphy's (forthcoming) approach to the multiple and shifting "topologies of biopolitics", and with Stefan Helmreich's (2007) attention to the range of sentiments about life that participate in biopolitical economies, this essay examines the ambivalent objects, subjectivities, and objectivities that are in the making inside of biopower.¹

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¹ For other approaches to contemporary biopolitical economies see also Shukin (2009) Cooper (2008), Rabinow and Rose (2006) and Rose (2007).

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