

A World of Materialisms: Postcolonial Feminist Science Studies and the New Natural

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Abstract

Research often characterized as “new materialist” has staged a return/turn to nature in social and critical theory by bringing “matter” into the purview of our research. While this growing impetus to take nature seriously fosters new types of interdisciplinarity and thus new resources for knowing our nature-cultural worlds, its capacity to deal with power’s imbrication in how we understand “nature” is curtailed by its failures to engage substantively with the epistemological interventions of postcolonial feminist science studies. The citational practices of many new materialist thinkers eschew the existence of what Sandra Harding has called “a world of sciences.” I argue that the “science” privileged and often conflated with matter in new materialist storytelling is the same science destabilized by postcolonial feminist science studies. This does not mean that new materialist feminisms and postcolonial feminist science studies are necessarily at odds, as new

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materialist storytelling and prevailing conceptualizations of the postcolonial seem to suggest. On the contrary, I suggest that thinking creatively, capaciously, pluralistically, and thus irreverently with respect to the rules of science—about the boundaries and meanings of matter, “life,” and “humanness”—could be understood as a central project for a postcolonial feminist science studies.

Keywords

new materialism, sciences, feminist materialism, ontology, epistemology, Eurocentrism

[I]t appeared that the so-called Ontological Turn, and discourses of how to organize ourselves around and communicate with the constituents of complex and contested world(s) (or multiverses, if you're into the whole brevity thing), was spinning itself on the backs of non-european thinkers. And, again, the ones we credited for these incredible insights into the ‘more-than-human’, and sentience and agency, and the ways through which to imagine our ‘common cosmopolitical concerns’ were not the people who built and maintain the knowledge systems that european and north american anthropologists and philosophers have been studying for well over a hundred years (Todd 2014)

[O]ne of the crucial challenges within material feminisms is whether this strand of feminism can effectively answer to the call to question the whiteness of feminism. (Irmi 2013, 357)

We find ourselves now in the midst of an ontological turn that, for better or worse, would seem to have changed everything (Turner 2012). Critical science studies projects, such as those that claim the label “postcolonial” or “feminist,” have been narrated as yesterday’s news, as the cutting edge of science studies appears to be “engaging” science rather than “critiquing” it (see, e.g., Hird 2004; Alaimo and Heckman 2008). This research, often characterized as “new materialist,” has staged a return/turn to such objects as “the body,” “nature,” and “life” in social and critical theory by bringing “matter” into the purview of our research. We see this attention to matter emerging across disciplines and interdisciplines in neurofeminist engagements with the molecular, ecofeminist theories of the anthropocene, and posthumanist treatments of the coevolution of human and nonhuman animals. Matter generally takes the form of scientific data on bodies

and climates and that data become the object around which curiosity circulates and out of which new—materialist—feminist theories emerge. In this article, I demonstrate the limitations of such research through an analysis of three new materialist formulations: Grosz's (2011) portrayal of sexual differences, Wilson's (2004) opposition to antipsychiatry, and Diana Coole and Samantha Frost's framing of climate change. All three positions privilege scientific disciplinary ways of knowing in their representations of the material. Subsequently, I examine the foundational work of Karen Barad, who is often cited as a key figure in inaugurating the material turn; Donna Haraway, who is widely recognized for revolutionizing feminist understandings of nature; and Sandra Harding, a feminist epistemologist and postcolonial science studies scholar, who is largely ignored in new materialist thinking for their collective contributions to theorizing feminist science. I propose that we endeavor to hold feminist materialism to this shared vision, which foregrounds power and accountability.

This turn to matter, marked by a spate of attention to physical materiality within the humanities, opens doors for new types of interdisciplinarity and new resources for knowing our nature-cultural worlds, to borrow Haraway's (2003) influential turn of phrase (Mamo and Fishman 2013; Papoulias and Callard 2010). In so doing, it promises to inaugurate a radical paradigm shift in how we understand the social. The capacity of this new materialism to deal with power's imbrication in processes of knowledge making, despite all of its promise, is curtailed by its failures to substantively engage the epistemological interventions of postcolonial feminist science studies. The citational practices of many new materialist thinkers call up a genealogy of European philosophers—beginning with Lucretius—invested in offering ultimately totalizing scientific explanations of the world and our place in it. Marked as it is by an implicitly Judeo-Christian brand of secularism that allows us to imagine nature as law-governed and by a Eurocentric protomodernity that separates the rational from the irrational, this genealogy is problematic from the perspective of a postcolonial feminist science studies. This narrow genealogy fails to acknowledge the existence of what Sandra Harding has called “a world of sciences.” This world, to which Zoe Todd refers in my opening epigraph, must be engaged if new materialism is to answer critiques of the implicit whiteness and Eurocentrism of feminism unqualified, which Sari Irni raises in my second epigraph. That is to say, the concept of matter is itself culturally and historically specific and, as such, contested terrain.

I argue that the science that is privileged and often conflated with matter in new materialist storytelling (Irni 2013; Willey 2016a), rather than marking a shift to thinking in terms of a multiplicity of sciences, is the same capital “S” Science, unqualified, critiqued by postcolonial feminist science studies.

This does not mean that new materialist feminisms and postcolonial feminist science studies are necessarily at odds, as new materialist storytelling and prevailing conceptualizations of the postcolonial seem to suggest (see, e.g., Schnabel 2014). On the contrary, thinking creatively, capaciously, pluralistically, and thus irreverently with respect to the rules of science and about the boundaries and meanings of matter, life, and “humanness”—something new materialisms arguably do—could be understood as a central project for a postcolonial feminist science studies. This would necessitate both new storytelling practices and new forms of accountability for feminist materialism. These new storytelling practices might provide avenues (as yet foreclosed for material feminisms) to destabilize, rather than reconsolidate Eurocentric stories about, the relationship between “materialism” and “Science” and enable scholars to participate in the work of recognizing and engaging a *world of materialisms*.

In this article, I invoke feminist theorist Clare Hemmings’ concept of storytelling as a practice of academic disciplining in which we are all implicated as knowledge producers (2011). The stories we tell about our fields, stories we must tell in order to situate our own work, depend upon the invocation of particular genealogies of those fields. Conversely, they render alternate genealogies invisible. Some stories are contested. Others become quite entrenched and make it difficult to see other ways we could tell the story of how we arrived at or might conceive the stakes of a given intellectual project. Through analysis of academic storytelling conventions, we open up space to think our fields anew. This brings new alliances, accountabilities, and directions for future research into focus. My aim is to rethink new materialist storytelling in order to articulate its debts to and affinities with postcolonial feminist science studies in order to make space to narrate critical genealogies and new ways forward. I start by rethinking new materialist stories of progress that narrate a history of feminist relationships to science as moving from old-fashioned critique to science-friendly engagement, analyzing how new materialisms sometimes instead take retrograde steps toward the universal human and positivism. I then turn to alternative knowledge politics of matter and conclude with a call for a world of materialisms.

Rethinking Stories of Progress from Critiques to Engagements

The story of a progressive shift from feminist critiques *of* science—which include postcolonial feminist science studies—to feminist engagements *with* science, of which new materialism is a part, has become increasingly entrenched. Many types of interventions in this story have emerged (e.g., Ahmed 2008; Roy and Subramaniam 2016; van der Tuin and Dolphijn 2010). Ruha Benjamin and Sandra Harding in this volume take on the characterization of the critical figures of the “informed refuser” and “the rear guard” as antiscience positionalities. Some have been centrally concerned with the privileged epistemic status of science in a formulation that sees new materialist approaches as in tension with their critical predecessors and counterparts (Irni 2013; Willey 2016a). That is to say, some of us have noted the strange reinvigoration of the nature/culture binary in the framing of “the material” as an object best accessed through (scientific) disciplinary apparatuses (Willey 2016b). In Irni’s words, “what is crucial is that this particular [new materialist] set of arguments about the need to account for biology also sometimes *conflates an engagement with the natural sciences with accounting for ‘materiality’*” (Irni 2013, 351). Some have sought to bring (old school/historical) materialist and (new) material feminist approaches together—to bring concerns with power into explicit dialogue with concerns with matter. Roy and Subramaniam (2016), for example, insist on recouping critiques of determinist representations of the body in science, as we (feminists) stage a “return” to the discipline of biology. They conclude with a call to draw knowledge from a variety of “biologies,” that is, to think not only about what bodies matter but what bodies of knowledge about bodies matter. This article takes up that call by reconsidering the relationship between the fields of new materialism and postcolonial feminist science studies, arguing that that relationship must be reconceptualized if feminist new materialisms are to avoid reinscribing the historic whiteness of feminism unqualified.

In another recent paper engaged with this feminist progress narrative, sociologist Landan Schnabel focuses on notions of subjectivity in feminist science studies. He endeavors to bring new materialist feminisms, queer ecologies, and postcolonial feminist science studies into direct dialogue in order to compare their approaches to the problem of “the subject.” His characterization of postcolonial feminist science studies reflects a common reductionist understanding of the field and one deeply embedded in new materialist storytelling. For this reason, it is worth reading his arguments

attentively. Schnabel focuses on postcolonial feminist science studies as a challenge to the historic “object” status of the postcolonial world. As such, he characterizes it as a project oriented toward “completing” the humanist project by extending subject (knower) status to all humans not just Western scientists. He writes:

Feminist postcolonial science studies, including its call for all humans to be viewed as subjects rather than objects for Westerners to exploit, fix, or save, is the easiest of the three frameworks to reconcile with traditional conceptions of subjectivity because of the continued distinction between the human and non-human. (Schnabel 2014, 13)

He juxtaposes this project with new materialisms and queer ecologies, which, rather than extending the humanist project, he argues, aim to challenge the life/nonlife and human/nonhuman divides respectively: “Queer ecologies goes further than feminist postcolonial science studies in its challenge of traditional notions of subjectivity as a unique, unified, and rational consciousness or abstracted ‘self’ rooted in sentience, but not so far as new feminist materialisms” (Schnabel 2014, 13). Here, he positions queer ecologies as a compromise between postcolonial science studies’ humanist ambitions of inclusivity and the radical antisubjectivizing moves of new materialism. This continuum of approaches to the subject serves to deradicalize the epistemological work of postcolonial feminist science studies, which has called for the “inclusion” of worldviews that fundamentally problematize notions of subjectivity we spend so much time debating. In articulating this continuum, Schnabel distills a problem endemic to much feminist new materialist work: its failure to grapple with the debt “new” feminist notions of ontology owe to “old” feminist critiques of scientific epistemologies and still older cosmologies.

There is something methodologically and politically valuable in Schnabel’s intervention: insistence on bringing these strands of feminist science studies into dialogue. In particular, thinking postcolonial feminist science studies and new materialisms together can open a more explicit conversation about the relationship between (postcolonial feminist) epistemologies and (new) ontologies. Although it productively disrupts the idea of a progressive *temporal* shift (from critique to matter), Schnabel’s positing of a fundamental tension between these fields’ approaches to subjectivity still mirrors the “critique of science”/“engagement with matter” split pervasive in new materialist accounts. While his approach refreshingly revalues the critical, the formulation itself is, in my estimation, an obstacle to realizing

key shared aims of both (all) of these feminist projects: to know our worlds differently.

The critique/engagement split leaves us the fraught options of either (white) feminist dissolution of the humanist subject or (postcolonial) reinscription of its stability, and, in so doing, leaves Science remarkably stable. The characterization of postcolonial feminist science studies and feminist new materialisms as opposite ends of a spectrum of thinking about subjectivity ironically *recenters* the humanist subject of Western philosophical thought by failing to engage the implications of some of the fundamental insights of feminist postcolonial science studies. That is to say, postcolonial studies itself might be said to operate as a critique of the humanist project (Balagangadhara and Keppens 2009). The singularity of truth, the unity of science, and the values that constitute an imaginary that makes these concepts intelligible are all among the objects of postcolonial science studies critique (Harding 2006). Thus, the very idea that we know what life is, what it means to be human, and so on, should be fundamentally challenged by the project of postcolonial feminist science studies. As such a critical intervention, postcolonial feminist science studies is an enabling project for a proliferation of new understandings of nature, life, and so on (Keating and Merenda 2013). By new understandings, I mean those at odds with ones widely considered scientifically true within an epistemological framework that privileges (Western/Northern) reductionist scientific ways of knowing as offering the most credible approaches to conceptualizing, codifying, and understanding our worlds.

I argue that feminist postcolonial science studies might lend support to the on-the-ground work of projects we might consider part of new materialism. At the same time, it challenges their framing as new. That is to say, certain assumptions make it possible to imagine challenges to the human/nonhuman and life/nonlife divides as new. The first of those assumptions is that until recently there was consensus on the inanimacy of matter. The second of those assumptions is the universality of the anthropocentric worldview that characterizes Western scientific hegemony. Yet these old conceptions of the world and the place of humans within it belong to a particular epistemic regime that authorizes one science's knowledge of nature as truth. The destabilization of this epistemological imperialism is at the heart of postcolonial feminist science studies. And so marking the new in new materialist storytelling by appealing to their emergent overthrow is only possible if postcolonial feminist critique is written out of its intellectual trajectory. In the following sections, I critique a prominent genealogy of new materialism in Western thought; subject new materialist

treatments of sex, depression, and climate change to postcolonial feminist inquiry; offer a critical genealogy for new materialisms that weaves more tightly together the epistemological critiques of postcolonial science studies and the ontological concerns of new materialism; and finally conclude with some thoughts on the possibilities of narrating a postcolonial feminist materialism.

Life, Subjectivity, and Genealogies of Materialism: On the Reemergence of the Universal Human

Through the category of life, genealogies of materialism in Western thought smuggle a power-neutral conception of the human into critical theory. A look at how life is mobilized—the objects it supplants and how its importance is established—helps to do two things here. First, it helps clarify the properties of matter that interest new materialists. Second, it elucidates the stakes of the genealogies we claim for feminist materialism. It is matter's agentive properties that distinguish new materialist inquiry from old materialist claims about the presumptively static nature of things. And the genealogy for theorizing this agency, often claimed in new materialist storytelling, is a surprisingly scientific one in which “the human” emerges as an unproblematic category, divorced from the political struggles that have produced and reproduced it. This storytelling also renders invisible genealogies for knowing nature differently that have been excluded from the definition of science. A vexed category, construed at once as the most fundamental and obvious and at the same time as a contested category with high-stake boundaries, life is on the proverbial table as nonscientists endeavor to articulate the ethical stakes of expanding our disciplinary repertoire to include matter. In recent discourses surrounding the matter of life and the import of tending to it, it would seem that “subjectivity” is to “culture” what life is to nature. That is to say, the complex sociohistorical formations of race, gender, and sexuality are oft dismissed as the purview of a feminism that has “reduced everything to text” (Sullivan 2012). In a feminist materialist world where we've returned/turned to nature, those theories of subjectivity that have focused on social, economic, cultural, and/or political operations of power seem to have been supplanted by life, an ostensibly purer object.¹

Implicit or elided in gestures to “the biological,” life proliferates colloquially—in relation/juxtaposition to “death,” for example—and operates as a more or less meaningful disciplinary object in different circles. Sometimes the boundaries of life and nonlife are the contested terrain.

Among organisms, this contestation might entail questions like: “what meaningful quality distinguishes rabbits from grass and from stones or grass and stones from one another?” *Within* any one of these organisms—understood as discrete and autonomous from other organisms at least intelligibly—it might entail questions like: “what distinguishes inert from lively matter?” The former debate has garnered mostly functional explanations. In 1911, Bergson (1983) determined, for example, that although plants are arguably “living” in a way that rocks cannot be said to have life, they are “lazy.” Here, “movement” was the marker of life that distinguishes living and inert matter. Life has other contemporary stand-ins in new materialism—“liveliness” (Kirby 1997, 2009), “vibrancy” (Jane Bennett), and “vitality,” to name a few. Lucretius pointed to that something in our chest that makes resistance to force possible, and made the observation that since bodies do not visibly reduce in size when people die, the “soul”—life?—must be made of particles that differ from those that constitute the mainly inert matter that it occupies.

This rarefied conversation about the metaphysical properties of life “itself” reveals that one of the stakes of the project of understanding life/vibrancy/liveliness/vitality (at least historically, following the Lucretian genealogy in “Western thought”) seems to be an ambitious and almost religiously scientific commitment to disproving the existence of God. This “something” that distinguishes agential/plastic from inert/dead matter is ostensibly what new materialists are trying to explain. Sometimes tracking this elusive property of matter is narrated as the timeless project of science and/or philosophy with shared atheistic/antisuperstitious values. Other times it seems to belong to an ostensibly innate and universal human desire to know our selves/worlds/and so on. One aspect of the problem with the Lucretian genealogy, which highlights Spinozist monism as a resource, is that the meaning of the pretense to enlightened secularism *here and now* is not what it was in Europe 300+ years ago. Hence, when we talk about vital materialism—the pursuit of the secret of life—today and in the history of Western thought, we are talking about politically incommensurate rhetorical and intellectual projects.

More importantly for my purposes, this genealogy of materialism imagines a debate about the matter of matter that excludes diverse and long-standing counterhegemonic knowledges about our worlds. Within feminist new materialist stories whose citational politics map out this narrow genealogy, there is a tension surrounding the epistemic status of material life. The conflation of matter with scientific ways of knowing bears traces of the objectivist disposition and ambitions of a positivist epistemic project,

but there is something else happening in the feminist turn to matter. There exist in feminist new materialist thought resources for destabilizing this project from within by proliferating incommensurate narratives about life.

Life is not a value neutral concept of universal human interest. Nor is it a mere property of matter to be measured and reported on. There is no life itself. There are only conceptions of life, mobilized in different times and places to different ends. To return to postcolonial feminist science studies critiques of Science is to remember why we must begin from politics to know life or the material. Politics will not emerge organically from the truth of life. Matter is not the proverbially masked face of God, but the name for a historically and culturally specific privileged evidentiary schema for claims about physicality, embodiment, and the imbrication of realms that modern science and disciplinarity have rendered discrete.

Positivism in New Materialist Storytelling and Postcolonial Feminist Critiques of Science

New materialist storytelling heralds a more “affectionate” relationship between feminism and science (Wilson 2004). As this call is excitedly taken up, epistemological questions about what counts as science are easily dismissed as “antiscience” or sidelined as a distinct, irrelevant, or less sophisticated feminist project (Hird 2004; Frost 2008; Grosz 2011). In its narratives around the pursuit of matter’s agency, new materialist storytelling has sometimes included attention to the disruption determinist conceptions of nature. That is to say, it has sought to narrate the sensitivity of matter, or, the fact that matter changes. Still, it has not sought to destabilize the modern scientific idea of nature as a monolithic entity governed by universal principles. In new materialist storytelling, nature still appears singular, law governed. In fact, new materialist storytelling seems to celebrate as a feature of scientific progress the “discovery” of the principles of agency and plasticity (see Paxson and Helmreich 2014). While the agentive, enchanted capacities of matter hold much potential for feminist theorizing, we must remember the long history of ideas of cellular agency in the biosciences. In our excitement about nondeterminist conceptions of matter, rather than challenging our sense of nature as predictably law-governed, agency—or plasticity—runs the risk of becoming another natural law.

While the idea of agential matter is full of potential for fueling more feminist imaginaries about human relationships to extra-human worlds, the romanticization of contingency, and in particular its institutionalization, reifies science as an explanatory schema. The principle of plasticity has

operated as a central feature of colonial discourse and practice. Determinist discourses of racial difference have always sat in productive tension with those of the possibilities for transformation wrought by civilizing influences (Blencowe 2011). Likewise with discourses around illness, disability/ability, and homosexuality. In other words, those most harmed by deterministic and nondeterministic conceptions of nature are the same groups of people. Conversely, those most likely to reap the benefits of the new natural are the same first—one-third—world consumer-subjects whose privileged status has been naturalized by the old determinist natural.² This shift has not produced any shift in the distribution of power.³ The unequal distribution of benefit and harm is disguised by the categories and questions renaturalized in new materialist storytelling's invocation of matter.

Positivist Science's claims to privileged access to what's real necessarily depend upon an epistemic arrogance that universalizes culturally and temporally specific ways of knowing. Postcolonial feminist science studies critiques exceed the problems of scientific representation to which they are often reduced. They get right to the heart of what we mean by science, what counts. Acknowledging science unqualified as one of many ethnosciences reorients would-be projects of feminist reform toward more radical (meaning systemic) critique of how we know our worlds. Sandra Harding's distinction between "Science" with a capital S and a more capacious concept of sciences is useful here.

While new materialist scholarship in effect produces sciences—often incommensurate sets of meditations and insights about the nature-cultural, material-semiotic world—it often does so through practices of storytelling that reclaim rather than destabilize "Science" as such. This further marginalizes postcolonial insights about the cultural specificity of Science and makes new materialist sciences vulnerable to a variety of critiques of the nature and accuracy of their empiricism (e.g., Bruining 2013).

If new materialist stories are to be accountable to the insights of postcolonial feminist science studies, they must avoid a few pitfalls. They must admit that recent onto-epistemological insights about the animacy of nature are not new. Counterhegemonic? Yes. But new? No. Second, they must understand the nature of their counterhegemonic status. It is in challenging the epistemological authority of Science as such that the radical potential of alternate (new materialist) conceptions of nature lies. Third, they must reconceive the project of feminist materialism as one of proliferating materialisms rather than telling the truth about matter. The decentering of epistemic authority would open space to ask questions that don't begin from the interests of neoliberalism and thus to redistribute benefit. Here I offer brief

reflections on how some quite compelling and influential new materialist treatments of sex, depression, and climate change fall short of this vision. I also suggest ways in which they might be narrated differently so as to be more accountable to the epistemological interventions of postcolonial feminist science studies.

Grosz's (2011) *Becoming Undone* reveals the Eurocentricity of the narrative invocation of matter itself and thus the need for a feminist materialism that takes up power rather than circumventing it by relegating it to the realm of "critique." Through a Darwinian reading of Irigaray's psychoanalytic conception of sexual difference, she contends that sexual difference exists in nature. Grosz claims that race, gender, and sexuality are cultural scripts imposed on nature, but that nature itself contains difference that we (feminists) would do well to grapple with.⁴ To name this gametic difference (the twoness from which all life springs), "sex" is problematic for a number of reasons, not least of which is the historic frames of intelligibility through which the concept emerged. Gametic difference is not a universal or ahistoric marker of bodily meaning. Sexual difference, gametes, and genital variation form one of those "fictive unities," a Foucaultian reading helps us name (McWhorter 2009). The sexing of bodies does not rely upon gametic variation (Dreger 1998) and gametic complementarity does not necessarily (*in nature*) produce *life*. The obsession with *sex* difference—naming it, pinning it down, and debating its relative naturalness (and relation to "gender")—must be understood as part of a colonial scientific tradition. The co-constitution of conceptions of racial and sexual difference are intimately intertwined, such that claiming race's superficiality (as culture), and sex as something that can have an itself, some pre-discursive facticity, is to ignore sex's racialized formation as an intelligible biological object (Markowitz 2001; Magubane 2014; McWhorter 2009). The "body itself" is not a race-neutral body (Hamilton 2008; Nelson 2008; Reardon and Tallbear 2012; Vora 2015). In new materialism, as in other areas of feminist theory, the unmarked and presumably race-neutral body is implicitly white (Birke 2000; O'Grady 1992). When we consider the evidence in nature of "sexual difference," we are starting not from nature itself but from a historically and culturally specific set of concerns that have distilled themselves into particular lexicons of material-discursive facticity.

Likewise, an analysis of Wilson's (2004) treatment of depression in *Psychosomatic: Feminism and the Neurological Body* shows how molecularizing body-knowledges need to be approached through the lens of social justice (Roy 2007). In the book's first chapter, "Freud, Prozac, and

Melancholic Neurology,” Wilson critiques antipsychiatric discourse through a compellingly detailed analysis of what feminists hear when we “listen to Prozac.” Because the selective serotonin reuptake inhibitors (SSRIs) are ingested, it can show that the whole body—not just the mind or just the brain—is involved in depression. I do not mean to suggest here that this analysis is inaccurate or that it isn’t useful. Rather, I mean to point out that this *story* about the matter of depression entails the elision of other stories. In particular, it depends upon an erasure of the complexity of feminist antipsychiatry discourse. The critique of the medicalization of depression here is reduced to social constructionism, when, in reality, critiques of the pharmaceuticalization of wellness are far more capacious.

Wilson’s antipsychiatry position—rendered on the basis of the material (here neurological)—falls short with respect to postcolonial feminist science studies in that it proceeds without attention to “materialist” analyses of the global circuits of knowledge, power, and money that make pharmaceuticals a frame or measure for understanding bodies and wellness. That is to say, the effects on hormones of most SSRIs are not specific to pharmaceutical products and consumption. As Wilson’s analysis itself supports, the body’s hormone systems are quite plastic. Lots of experiences can create a “chemical imbalance,” and many types of treatments can produce hormone effects to which that imbalance/balance may be responsive. So the case for SSRIs—the case in defense of the pharmaceutical—cannot be divorced from their accessibility over other types of treatments for depression in a pharmaco–insurance–research industrial complex—a complex that reproduces itself in circular fashion by:

1. being the main treatment people can access (in certain parts of the world) and thus
2. having the best “evidence-based” track record for depression treatment and, therefore,
3. securing the most funding for continued research and distribution.

The pharmaceutical thus becomes a key site for knowledge about bodies through its embeddedness in larger operations of power. The fact that its data prove useful is not in itself a sufficient answer to critiques of it. Those critiques are not critiques of “biology” per se, but critiques of the privatization of health care and the unequal distribution of costs and benefits as wrought by an industry that has relied on one-third world consumers and two-thirds world test subjects. Again, this is not an argument for the social construction of illness but rather a call for reading bodies, minds,

and nonhuman objects of capital together. In a world of materialisms, we might learn to know and treat depression differently.

In my third example, the conflation of materiality and scientific data takes center stage. Even when power is addressed explicitly, new materialist storytelling—in its articulation of the material—too often makes the case for its existence by privileging positivist epistemologies over postcolonial knowledges. In the introduction to *New Materialisms: Agency, Ontology, and Politics* (2010), Diana Coole and Samantha Frost don't sideline issues of power in the ways that Grosz and Wilson do in the examples noted above, which are focused on the specificities of bodily agency. Rather, Coole and Frost endeavor to engage power centrally. In their introduction, they use global climate change as an example—and perhaps the most compelling possible example—of the stakes of engaging the materiality of our worlds *now*. Their case is made through a conflation of scientific fact (climate science) with the materiality of climate change (an altogether more complicated matter). This formulation renders invisible decades of climate change activism and knowledge production. These ignored efforts are largely those of the inordinately impacted two-thirds world. This is the work that has articulated the impact of one-third world consumption on the rest of the planet and its inhabitants and sought to place that violence on the proverbial map for the United States and European political agendas (Wu 2011).⁵ Only through belated recourse to Scientific frames, tools of measurement, and epistemological authority does “climate change” knowledge achieve the status of materiality. And climate science—as the materiality that takes global power seriously—ironically reifies the very authorizing systems that made this disparity of impact possible in the first place, not to mention proliferating new fields of often redundant “expertise” in the one-third world.

In these examples, “sex,” “depression,” and climate change are reproduced/produced as universal natural facts whose meanings are transparent and whose materiality is best accessed by Scientific disciplinary ways of knowing. We could speak of the material substance of such realities as sex, depression, and climate change as context-specific conceptual modalities with contingent materialities—as biopossibilities (Willey 2016a).⁶ The use of “material” to refer to the proper objects of Scientific knowledge-making as conceived by those disciplines that *count* is neither a practical nor rhetorical inevitability.

Postcolonial critiques of the Eurocentricity of modern science have framed anthropocentrism and arrogance regarding proclamations about what counts as living as artifacts of an imperial ethnoscience

(Harding 2006). New materialist storytelling narrates human-centric materialism not as an imperialist scientific project but rather as a set of universal tenets only recently displaced by new conceptualizations of the natural in Science and/or critical theory. Neither the posthumanist/queer ecological challenge to anthropocentrism nor the new materialist challenge to the life/nonlife binary can be pulled apart from this epistemological insight of postcolonial feminist science studies. The projects are coimplicated. And this is the opportunity that new materialism has not yet seized and is, in a sense, its great betrayal of feminist and postcolonial critique. It has appropriated “unscientific” notions of materiality, including concepts borrowed from cosmological systems historically excluded from science’s definition and *scientized* them through elegant rereadings of, for example, Darwin (Grosz 2011), Freud (Wilson 2004), and Hobbes (Frost 2008). Where Science might be powerfully destabilized as a dominant and dominating worldview by a proliferation of materialisms, feminist new materialisms’ storytelling conventions have far more often participated in strengthening its status as a singular and inherently value-free project, by suggesting that it is by moving past old critical hang-ups about science and that we, feminists, come to the possibility of new ontologies (Alaimo and Heckman 2008; Coole and Frost 2010; Grosz 2013; Hird 2004; Wilson 2004).

Knowledge Politics Matter: Toward a Genealogy of Critique

What would it look like if new materialisms were framed not as scientized returns/turns to nature but rather as ways of reconceiving/conceiving the imagined proper objects of Western science? This would not only position these projects as destabilizing challenges to the epistemological hegemony of Science but also make them accountable to a postcolonial insistence on the importance of power. Sari Irni’s intervention in “The Politics of Materiality: Affective Encounters in a Transdisciplinary Debate,” which she describes as an attempt to politicize the debate on materiality, raises important questions that enable my meditations in this section. She argues that in positioning itself as distinct from the concerns of materialist feminisms that came before, new material feminisms construct a hierarchy that (all at once) makes *science* more important and *race* less important to feminism:

[A]t times an interest in themes and “objects” traditionally belonging to the natural sciences, as well as the argument for more engagement with the natural sciences, is worked into an affective move that marks other

approaches as “traditional,” and hence less interesting. This, in turn, risks promoting a politics in material feminisms which bypasses postcolonial critique and excludes analysis of race from the sphere of the new and interesting. (Irni 2013, 355)

Importantly, Irni moves beyond critique of the effects of this new materialist story and toward imagining another way of thinking the story, or perhaps more aptly, toward another story. This new imaginary is aspirational, a wish: “I wish,” she says, “that material feminisms would not be affectively pitted against the study of race and class, and that interdisciplinary encounters would be in Ahmed’s words a ‘labour of love,’ both caring for feminist predecessors and shattering juxtapositions” (Irni 2013, 305). For example, what does it mean, she asks, that in new materialist claims on her work, the postcolonial and (historical) materialist feminist citational practices in Barad’s work have been almost entirely ignored? Indeed, the reading/appropriation of Barad as a material feminist (a feminist concerned with *matter* rather than critique) does something and offers an excellent site for thinking about the politics of new materialism. Reading Haraway (2003, 2008), Barad (2007), and Harding (1993, 2011) for shared feminist science studies ground uncovers affinity among projects of postcolonial feminist science studies and feminist new materialisms.

Without doubt, Barad has made the “gesture” (Ahmed 2008) with which many feminist critics of new materialism have taken issue: to stage new approaches to materiality as an intervention within a science-unfriendly feminism. A closer reading of Barad (2007), as a material feminist, opens up opportunities for thinking about how new materialism and postcolonial feminist science studies are connected—that is, postcolonial science studies as a condition of possibility for new materialisms. Just as these aspects of Barad’s work—her more affectionate relationship to epistemological critique—have been downplayed in deployments of her concept of agency so too have connections between Harding’s worlds of science and Haraway and Barad’s (arguably) more Science-friendly materialisms. Rather than a comparative or evaluative reading of this triad, I seek to offer a genealogy that links the work of three eminent feminist scholars whose relations to materialism have been imagined differently. Here I offer a reading of commonalities in Barad’s, Haraway’s, and Harding’s epistemological projects, commonalities that highlight the vital importance of *knowledge politics* (epistemology) to possibilities for feminist sciences (new materialisms?). Barad might be described as an avowedly new materialist feminist thinker, Haraway is cited in both treaties on and critiques of new materialism, and

Harding's decolonialist legacy has been conceived as largely irrelevant to feminist materialism (engaged in a wholly different project: one of the critique).

For decades, these and other feminist science studies scholars have sought to theorize new ways of imagining "objectivity" or new criteria for evaluating knowledges about the natural world. The highly influential and often overlapping concepts of "strong objectivity" (Harding 1992), "situated knowledge" (Haraway 1988), and "agential realism" (Barad 1999) have fueled this discussion. While the authors of these concepts are not always regarded as having similar aims, their visions of feminist science share common elements: a recognition that knowledge is partial, situated, not universal; a desire to lay bare the political effects of all scientific truth claims; and most importantly, some vision of what it might look like to politicize scientific knowledge production in a way that allows for an answerability—an accountability—beyond the realm of internal critique that science as we know it lacks (Franklin 1995).

The conceptual terrain of dialogue about feminist science over the years owes much to Sandra Harding's concept of "strong reflexivity," wherein the producers of knowledge see themselves as broadly accountable and are committed to considering the blind spots imposed by their specific social locations. This reflexivity is the precondition for what she calls strong objectivity. Strong objectivity is contrasted with the "weak objectivity" of Science. According to Harding, objectivity in science is weak, not because it is flawed in method or avoidably biased, but rather because it starts, inevitably, from the questions, concerns, and interests of scientists (people) and the institutions of which they are a part (including circuits of global capital). Strong objectivity, on the other hand, begins from the "standpoint" of the lives of the most marginalized. That is, it presumes not the essentially epistemically superior position of, say, women, but rather the benefit of attempting to generate and approach questions from different vantage points, whoever the asker.

For Haraway, the multiplicity of competing truths produced within primatology exemplifies the range of situated knowledges that science(s) *could* produce; these competing narratives provide us with additional resources for imagining "human nature" and making our worlds differently. Haraway argues that even as we challenge and remake its contents, we need science, our myth, just as we need all of the other creative means we have at our disposal (Haraway 2013, 42).

Karen Barad, like Haraway, frames her critiques of the concept of objectivity in terms of resisting a problematic subject/object split. Drawing

heavily on physicist Niels Bohr, it is impossible, she argues, to distinguish the object of study from “the agencies of observation” (Barad 1999). According to Bohr, there is no “observation independent object,” there are only phenomena—observation is part of any phenomenon. Barad proposed the concept of “agential realism” as a way of resolving the tension set up between “realism” and “social constructivism” (“real” object and “subjective” observation). In so doing, she asks us to think of science as “material-discursive” practices (Barad 1999, 6). In this formulation, objectivity and agency are bound up with responsibility and accountability—we, producers of knowledge, are thus bound to consider the possibilities, both enabling and violent—of interacting with the world by studying it. In this sense, we become responsible not only for the knowledge we seek but for what exists.

Ultimately, Harding, Haraway, and Barad in their own ways insist that we have to acknowledge our agency and our role as knowledge producers in shaping the course of knowledge. This ethic has not become a part of new materialist storytelling. In practice, this means “alter[ing] our intellectual allegiances” (Longino 1987, 61). For Harding, the project of implementing strong objectivity cannot be assimilated into the logic of research or dominant philosophies of science; it would supplant science as we know it. According to Haraway, we cannot implement such changes to science without changing our lives—we will be able to imagine the natural world differently when we are able to structure our own lives in ways not premised on logics of domination. The new myths of the natural world we are able to create will in turn foster and support new worlds as our old science myths have done. Barad’s vision of accountability has implications for the individual choices we make as knowledge producers as well. Despite their differences, together these epistemological interventions suggest the absolute centrality of politics to how we talk about what some call matter and what Harding has called “mind-independent reality.”

Concluding Thoughts on the Possibilities of Postcolonial Feminist Materialism: Toward a World of Materialisms

I have examined materialist feminist storytelling practices and attendant genealogies through the lens of postcolonial feminist science studies and found it is as yet ill-positioned to “answer to the call” to account for the specificity—and especially the whiteness—of feminism unqualified. If a

new materialism is rendered by feminists relating to Science more generously, materialist engagements with postcolonial feminist critiques of science ought to yield a world of materialisms. A postcolonial feminist materialism would proliferate knowledges and thus narrative and empirical resources for transforming our worlds.

Despite the fact that this project of proliferating materialisms is not a story we tell about what new materialism is or offers, there are in fact many working at the interstices of material considerations and postcolonial feminist critique who might be read as doing precisely this sort of work. These are thinkers who draw for evidence on archives of materiality historically excluded from the definition of Science. Weheliye (2014), for example, insists on the importance for posthumanist materialisms of Sylvia Wynter's work on understanding the human as man (white and male). Thinkers such as Tallbear (2011) and Holland (2015) are deliberately rethinking the locus of epistemological authority to define human/nonhuman boundaries. Chen's (2012) use of critical race and disability theory as archives for exploring the animacy of things, Alaimo's (2010) use of Audre Lorde's cancer journals as popular epidemiology, Anne Pollock's engagements with lay knowledges of "the heart," Bahng's (2015) uses of speculative fiction, and Subramaniam's (2014) call to fictional science all introduce the ostensibly unscientific as fodder for materialisms. The work of other contributors to this volume similarly suggests that to explain how matter matters, we must know our histories. Postcolonial feminist science studies can operate as occasion and resource for knowing, imagining, and making our worlds anew. Let's tell that story.

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Notes

1. See Raman and Tutton's (2010) engagement with Paul Rabinow and Rose (2009) for a rich treatment of the imbrication of a supposedly new politics of molecularized life with "older" conceptions of biopolitics that focus on populations.
2. Mohanty (1988) argued for the use of "one-third" and "two-thirds" world in the 1980s as a way of politicizing the language of "first" and "third" worlds and pointing to the fact that this imperial power is in fact wielded by a global minority. Rather than replacing them with loaded development language (like developed and developing) or imprecise geographical markers (like east/west or north/south), Mohanty's language works well here, where my aim is to highlight the unequal distribution of epistemic authority.
3. See Pitts-Taylor (2010) for a rigorous analysis of how neoliberalism has contributed to and been served by the traction discourses of plasticity are gaining within and beyond the academy and Rosenberg (2014) for a complimentary treatment of how the ontological turn in the humanities is implicated in the intensification of neoliberal forms of settler colonialism and financialized capital accumulation.
4. See Huffer (2015), for a critique of the "itself" in Grosz's analysis.
5. See Callison (2004) and Di Chiro (2016).
6. Elsewhere I develop the concept of "biopossibility" as tool for naming the "species- and context-specific capacity to embody socially meaningful traits or desires" in a way that acknowledges the unmappability of the complex and nonlinear relations among factors that would once have belonged to either nature or culture (Willey 2016a, 555).

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