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New Empiricisms and New Materialisms: Conditions for New Inquiry

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Abstract

This article, which introduces this special issue on new empiricisms and new materialisms, focuses on two of the many conditions that enable this new work: first, an ethical imperative to rethink the nature of being to refuse the devastating dividing practices of the dogmatic Cartesian image of thought and, second, a heightened curiosity and accompanying experimentation in the becoming of existence. The article includes a brief description of how matter matters differently in this new work, of Deleuze and Guattari's description of philosophy as the laying out of a plane that enables new concepts, a discussion of the "new," and how/if methodology can be thought in the "new."

Keywords

new empiricism, new materialism, ontology, empiricism, materialism, Deleuze and Guattari

Since at least the beginning of the 21st century, scholars in the humanities and social sciences working in what are being called the *new empiricisms* (Clough, 2009) and *new materialisms* (e.g., Coole & Frost, 2010; Dolphijn & van der Tuin, 2012) have intensified their critique of the foundational assumptions and related "dividing practices" (Foucault, 1982, p. 208) of Western thought that enable binary oppositions such as Same/Other, human/nonhuman, mind/matter, culture/nature, conscious/unconscious, transcendence/immanence, idealism/materialism, and so on. A special focus on the ontological grounds on which those distinctions continue to be made is front and center in this work, as are other age-old distinctions such as those between philosophy and science, those philosophy has made between epistemology and ontology, and those epistemology has made between rationalism and empiricism. These and other foundational assumptions have become urgent problems the new empiricisms and new materialisms address.

Empiricism and materialism go hand in hand. Classical empiricism is an epistemological project opposed to rationalism. In that model, knowledge of the empirical world gained through the senses is the only knowledge that is legitimate. The argument is that we can't claim to know anything not given in our experience. Speculation through logical reasoning is just that, speculation, and cannot serve as a ground for knowledge. So the given, matter (evidence), surely matters in classical empiricism; and it is generally assumed to be a fixed substance, brute, inert, and passive—objects, things to be used by agentive humans—perhaps to be *observed* or *measured* in a social science study.

The empirical and the material are so imbricated they must change together, and with those changes comes a rethinking of ontology, which considers the nature of being and the basic categories of existence (e.g., subject/object, essence/appearance, substance/quality, identity/difference) as well as the nature of *human* being. As we rethink matter, we must rethink the empirical (about knowledge) and ontology (about being), and the classical division between the two begins to break down, hence, Barad's (2007) new concept *onto-epistemology* and another, even more indicative of this new work, *ethico-onto-epistemology*, which makes it clear that how we conceive the relation of knowledge and being is a profoundly ethical issue, as is the relation between the human and the nonhuman.

In this introduction to the special issue on the new empiricisms and new materialisms, we provide a brief description of materialism, and in her article in this issue, St. Pierre describes several empiricisms. We do not attempt, however, to summarize what the new materialisms and new empiricisms *are*—that is an impossible task because they are in process and they are not one thing. Needless to say, there is much to read.

Instead, we want to back up and consider their enabling conditions, to consider why and how it was possible, and

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necessary, to think these new bodies of thought. We focus on two of those conditions we think are especially important: an *ethical imperative to rethink the nature of being*—this is an ethico-onto-epistemological project—and a *heightened curiosity and accompanying experimentation*.

Following Deleuze and Deleuze with Guattari, we suggest that rethinking the nature of being is an experimental project in which we lay out a different plane of thought on which we can create new concepts that will help us live a different existence. The new empiricisms and new materialisms are, indeed, laying out a different plane of thought. But different images of thought and their accompanying concepts vie with each other. We briefly describe both the dogmatic, orthodox, Cartesian image of thought that drives much social science research as well as an incommensurable counter image of thought offered by Deleuze and Guattari that informs much of the "new" work. Whether work is "new" is always a matter of debate, and scholars doing new empirical, new material work usually begin by addressing that issue and pointing out that the descriptor "new" does not necessarily announce something new but serves as an alert that we are determined to try to think differently. In that spirit, we provide a description of the "new" that might be useful.

It is important to remember that the empirical turn, the material turn, the ontological turn, and others are possible because of a different image of thought in which *everything has turned*, an image of thought in which the old categories and distinctions can no longer be thought. Continuing to think and live in the structures of that image of thought is no longer possible or tolerable, and, we argue, unethical. Turns, ethical turns, become necessary when our encounters with the world can no longer be explained or justified by orthodox thinking, when new problems overtake us that demand our attention, our finest curiosity, and urgent "experimentation in contact with the real" (Deleuze & Guattari, 1980/1987, p. 12).

Matter and Materialism

In this section, we do not offer a definition of matter or of new materialism. Instead, we explain how matter is understood as animated and agential in the work of *new materialisms* or *material feminisms* (Alaimo & Hekman, 2008; Coole & Frost, 2010). According to Hekman (2010),

> the new approach does not have an agreed-upon label. Many have been proposed: several feminist critics of science favor "the new materialism"; Nancy Tuana proposes "interactionism" and "viscous porosity"; Karen Barad favors "intra-action" and "agential realism." The lack of consensus on a label, however, is indicative of little more than the newness of the approach. (p. 68)

We agree that the "new" in new materialisms and new empiricisms does not continue or accept a classificatory historiography of (academic) thinking that necessarily comes with a hierarchy or any kind of *a priori* logic. New materialism affirms that such hierarchized specialization creates "minds in a groove," whereas "there is no groove of abstractions which is adequate for the comprehension of human life" (Whitehead, 1925, p. 197). Further, along with Cheah (2010) and Thayer-Bacon, Stone, and Sprecher (2013), we distinguish the new materialisms from the materialism of Marxism and/or 20th-century material feminisms (e.g., Hennessy & Ingraham, 1997; Landry & MacLean, 1993). Finally, we stress the different assumptions about agency and the subject essential in this new work as it differs from reactivations of materialist traditions prior to modernity, what Coole and Frost (2010) categorized as "*renewed* materialisms" (p. 4) and what Lenz Taguchi (2013) referred to as *re*newed materialisms that reactivate "ontologies and epistemologies that constitute the very foundations of qualitative interpretive inquiry" (p. 707).

The materialism of Marxism and critical theory is described as that which is experienced in the world. In the broadest terms, this materialism maintains that whatever exists is, or depends solely on, matter. For those who ascribe to materialist philosophies, the material precedes knowing—it is there, waiting to be known. Hird (2009a) distinguished between the emerging field of material feminism (in which much of the work in this special issue is situated) and what she described as the more familiar *material feminism* that provided theoretical support for Marxist and/or critical feminist analysis of the 20th century:

> This latter field is concerned with women's material living conditions—labor, reproduction, political access, health, education, and intimacy—structured through class, race, ethnicity, age, nation, ableism, heteronormativity, and so on. These analyses, in broad brushstrokes, draw attention to the often mundane, repetitive, and tedious activities of daily life—hauling water, chopping firewood—that occupy women's lives. Although certainly paying attention to the often overlooked minutiae of "living woman," these analyses tend not to engage with affective physicality or human-nonhuman encounters and relations. What distinguishes emerging analyses of material feminism—alternatively called "new materialism," "neo-materialism," and "new sciences"—is a keen interest in *engagements* with matter. (pp. 329-330)

A key move in new materialist theorizing is how matter is thought and where agency resides. In writing of "new materialisms," Coole and Frost (2010) emphasized that descriptions of matter in humanism are contingent on Cartesian assumptions that understand matter as "extended, uniform, and inert" (p. 7). Descartes provided a foundation for modern assumptions that nature is fixed and measurable, laying the groundwork for Newtonian physics, which assumes material objects to be discrete, acting only when acted upon by an external agent, and existing in a cause and effect relationship.

We argue that an ontological reorientation in this new work, as illustrated by several articles in this special issue, is often influenced by the work of Gilles Deleuze and his vitalist proclivities. Coole and Frost (2010) presented three themes they deemed consistent in new materialist scholarship:

> First among them is an ontological reorientation that is resonant with, and to some extent informed by, developments in natural science: an orientation that is posthumanist in the sense that it conceives of matter itself as lively or as exhibiting agency. The second theme entails consideration of a raft of biopolitical and bioethical issues concerning the status of life and of the human. Third, new materialist scholarship testifies to a critical and nondogmatic reengagement with political economy, where the nature of, and relationship between, the material details of everyday life and broader geopolitical and socioeconomic structures is being explored afresh. (pp. 6-7)

We reiterate that a characteristic shared by these three themes is an emphasis on the resiliency of matter and its productivity in concert with the human, challenging our basic humanist assumptions, including, and perhaps foremost, "its normative sense of the human and its beliefs about human agency" (p. 4).

Humanist assumptions of matter treat matter as *presence* thereby arresting movement (Cheah, 2010) and precluding what Barad (2007) referred to as *agential realism*. According to Barad, agential realism ascribes agency not only to humans but to matter as well. A key understanding with implications for qualitative inquiry is that agential realism "provides an understanding of the role of human and nonhuman, material and discursive, and natural and cultural factors in scientific and other social-material practices" (Barad, 2007, p. 26). In other words, nature is agentic—it acts, and those actions have consequences for both the human and nonhuman worlds. The ontological commitments of *new* materialisms provide concepts for "understanding the agency, significance, and ongoing transformative power of the world—ways that account for myriad 'intra-actions' (in Karen Barad's terms) between phenomena that are material, discursive, human, more-than-human, corporeal, and technological" (Alaimo & Hekman, 2008, p. 5).

Why does this different understanding of matter and the material matter? Barad (2010) explained that

> only in this ongoing responsibility of the entangled other, without dismissal (without "enough already!"), is there the possibility of justice-to-come. Entanglements are not intertwinings of separate entities, but rather *irreducible relations of responsibility* [emphasis added]. There is no fixed dividing line between "self" and "other," "past" and "present" and "future, "here" and "now," "cause" and "effect." Quantum discontinuity is no ordinary disjunction. Cartesian cuts are undone. (pp. 264-265)

If humans have no separate existence, if we are completely entangled with the world, if we are no longer masters of the universe, then we are completely responsible to and for the world and all our relations of becoming with it. We cannot ignore matter (e.g., our planet) as if it is inert, passive, and dead. It is completely alive, becoming with us, whether we destroy or protect it.

Conditions for the New: Ethics, Curiosity, and Experimentation

In the spirit of this ontological turn, we might say that it's not that we have set the problem(s) of this turn but that, as Bryant (2008) explained, we "find ourselves in the midst of problems which function like imperatives to which we must respond" (p. 10). What is this "midst" in which we find ourselves; what are the *conditions* that compel us to attempt these turns? We argue that, to a great extent, an ethical imperative is a condition driving these turns. History teaches us that ethics also drove important 20th-century turns: the emancipatory turn organized around the identity categories that enabled feminist, race-based, queer, social justice, and postcolonial critiques—liberatory critiques—aimed at combating oppression. The postmodern and poststructural turns were also deeply concerned with ethics and deconstructing and opening up oppressive material-discursive structures.

The 21st century has been saturated with ethical crises. On a small scale, psychologists certified by the American Psychological Association (APA) advised the Central Intelligence Agency on and supervised torture at Guantanamo (APA has since revised its ethics policy). On a larger scale, millions of refugees flee their countries fearing torture, rape, famine, and death, and wealthy nation states refuse them, fearing the Other who is too Other. On a global scale, the Anthropocene, the newest geological era, scientifically confirms and marks the slow, creeping human impact on and destruction of our planet. Front page news articles report devastation from melting ice caps, floods, droughts, hurricanes, and tornadoes caused by deteriorating climate conditions we can't unwind, reverse. Even science, long the cure for the problems of human existence, can't fix this one. Man-made destruction of the planet is underway, and it's not a stretch to say we're now living in a disaster movie. Posthuman scholars don't just critique the current description of the human but imagine the literal *post*human, a time *after* humans, after the extinction of the human, a time when there are no more humans on the planet. What kind of existence have we created? What conditions have produced such a profound failure of ethics? Is it possible to imagine a different existence, a more ethical mode of being? (e.g., see Braidotti, 2013a). How we think existence, the nature of being, ontology, is a profoundly ethical issue, one that becomes increasingly urgent.

Another condition of this "new" work, we believe, is *a heightened curiosity and accompanying experimentation*, curiosity that, as Foucault (1984/1985) wrote, can accomplish the "critical work that thought brings to bear on itself" (p. 9) and can enable "one to get free of oneself" (p. 8) and refuse the existence we've been taught is real. Deleuze and Guattari (1991/1994), too, were interested in a different understanding of both thought and the nature of human being. Deleuze (1968/1994) proposed we create a new image of thought that refuses the dogmatic image of thought, such as the image Descartes used at the beginning of his *Meditations* that Deleuze summarized as follows: "everybody naturally thinks that everybody is supposed to know implicitly what it means to think" (p. 131). Deleuze and Guattari (1991/1994) encouraged us to think the unthought and to imagine "people that do not yet exist" (p. 109), people who, at least, don't destroy their planet in their mastery projects.

It is not surprising that ethical imperatives compel our curiosity. We have ample evidence that the existence we've created is not ethical, and the piling up of that evidence forces us to imagine a different existence. It is curiosity about what might be possible that enables us to imagine and create a different, more ethical existence. We made the existence we have—it is not "natural." We can think and make another, and that is the task of ethical experimentation.

Laying Out a Plane and Creating Concepts

The idea of an *image of thought* is important in this new work. Patton (2000) explained that an image of thought is "a pre-philosophical series of presuppositions which structures both the understanding of thinking and the character of the conceptual production which ensues on that basis" (p. 19). In most social science work, the image of thought is invisible—given, taken-for-granted, the province of philosophy and not science. However, that excuse is no longer acceptable, because *doing* this new work requires, first, that we study philosophy and the pre-philosophical image of thought that conditions it and, second, that we invent a new social science. This new work is philosophical and its *application* in conventional social science research grounded in the old materialisms, empiricisms, and ontologies is not possible. Using a heightened curiosity to experiment and imagine a new ethics of existence may well depend on the breakdown of the distinction between philosophy and science.

How do we refuse a dogmatic image of thought—the ordinary and unexceptional, the given, the normal, the foundational—and imagine a different image of thought? Butler (1992) cautioned that "theory posits foundations incessantly" and that our ethical task is to "question the foundations it is compelled to lay down" (p. 7). Deleuze and Guattari (1991/1994) wrote that the object of philosophy is the "laying out of a plane" (p. 36) and the creation of new concepts the plane enables. The image of laying out foundations or *laying out a plane* is helpful, we think, as we grapple with what is going on in this "new" work. How are the new empiricisms and new materialisms of the ontological turn laying out a plane—a different image of thought? What are the plane's capacities for producing new concepts and a new existence?

Before we imagine a "new" plane of thought, we must acknowledge and refuse the "old" plane of thought on which we are lodged. Deleuze (1968/1994), for example, warned us against the "dogmatic image of thought" (p. 143), a pre-philosophical image of thought that conditions and pre-judges everything, so that, for example, whether one begins with the subject or the object, one nevertheless begins in the dualism in which they are separated (p. 131). This image of thought, credited to Descartes, founds and drives much social science research: A researcher (the subject) studies the world (the object) to know it (this is the epistemological project called *empiricism*). Here, existence has been separated into the knower and the known for the sake of knowledge. That existence is divided in such a way is the unquestioned ontological assumption about the nature of being we accept *before* we begin our social science research projects. We accept that existence is separated into subjects and objects. Furthermore, we accept a particular existence of the subject, that *to be is to know*. We are not trained to critique that model and its assumptions; we simply repeat it in study after study. Descartes's image of thought, briefly described below, remains dominant and is the image of thought refused by the new empiricisms and new materialisms.

During the 17th-century Enlightenment in Western thought, Descartes, credited as the father of foundationalism, laid out a plane on which he could invent the concept, the *cogito*, a knowing subject, an epistemological subject, separate from, superior to, and master of everything else in the world. The *cogito*, this exceptional human, has innate agency. All other forms of life, nonhuman, unconsciousness life, are inferior. And matter (things, objects) is inanimate, inert, passive, waiting to be acted upon; it is the object of his subject, his *cogito*. Descartes' foundational plane, his image of thought grounded on the master binary, Self/Other, spawned many others, some listed earlier in this article.

In large part, Descartes' plane is founded on faith in the grammar of the subject/object distinction, a structure of language in which the subject of the sentence precedes the verb ("I think"), and so it is assumed that "I" is the subject of "think," that there is, indeed, an "I" who thinks. In other words, the doer precedes the deed. Belief in the logic of this linguistic structure is then applied to the nature of being in the world—man precedes the world and, in knowing it, creates the world—substance, things, objects, self-contained entities—as his object.

Descartes' foundational assumption works with the *philosophy of representation* that has dominated Western thought for centuries, the belief that language can be transparent and mirror the world for the mind. Here, language does not interfere—it can be crystal clear. In this way, careful, precise, accurate language can replicate, represent, the world. This assumption about language is the basis of the scientific, empirical method of observation, which, of course, is also a textual practice—observe and document. There is a real and then its representation (essence/representation), each on different levels of existence with language in the middle. Such is the nature of the world in the philosophy of representation. Baudrillard (1983/1993) claimed that

> all of Western faith and good faith was engaged in this wager on representation: that a sign could refer to the depth of meaning, that a sign could exchange for meaning and that something [the transcendental, the center that is elsewhere] could guarantee this exchange. (p. 346)

Nietzsche is famous for challenging the assumption that the doer precedes the deed. For Nietzsche, the "I" is a fiction, a "specifically linguistic figurative habit of immemorial standing" (Spivak, 1974, p. xxiv). Could that "I" be just a habit, a bad habit? Perhaps "I" does not precede the verb, "think." Perhaps thought is not initiated by the "I" but comes to the "I" from the world. Perhaps the "I" is not even separate from the verb or the object of the verb in the sentence, "I am running in the road." Perhaps "I," "running," and "road" only exist together—irunroad—in a spatiotemporal relation without distinctions. Perhaps everything exists on the same flat plane with no depth, with no hierarchies of subject/object or real/language/representation. But that is not the plane of thought Descartes laid out.

Deleuze and Deleuze with Guattari laid out a pre-philosophical plane they called at different times the *plane of immanence, plane of consistency, body without organs, pure difference*, and *abstract machine* (see St. Pierre, this issue, for a description of this plane and Hein, this issue , for how Deleuze's work differs from Barad's). This plane is immanent (see Hein, this issue) and flat and contains both the virtual and the actual (the virtual and the actual are both real). It is pre-conceptual and composed of unformed matter that intensifies in singularities, multiplicities, whose forces actualize the virtual through chance encounters with other singularities. Deleuze and Deleuze with Guattari produced many concepts from the plane of immanence they laid out: *rhizome, assemblage, bodies without organs* (see Mazzei, **this issue**), *fold* (see de Freitas, **this issue**), *concept* (see Lenz Taguchi, **this issue**), *refrain* (see Jackson, **this issue** and see MacLur**e, this issue**), transcendental empiricism (see St. Pierre, **this issue**) *incorporeal transformation, becoming-woman, war machine, faciality, order word, smooth space, nomad science, line of flight*, and others. These concepts function only on the plane of immanence. They cannot be thought and cannot function on Descartes' plane of thought that grounds much social science work.

Deleuze and Guattari's plane of immanence and their concepts may or may not be used in this new work. The dimensions of the plane of thought being laid out by the new empiricisms and new materialisms is not clear, nor will it ever be because *it is always being laid out, becoming*. Furthermore, we appear to be at the beginning of this work in a particularly rich, experimental moment with scholars in different disciplines taking up the different projects that are overtaking them as the plane opens up their thinking, provokes their curiosity, and enables them to experiment and invent new concepts and/or re-invent old concepts. Some of those concepts are as follows: *onto-epistemology* and *ethico-onto-epistemology* (mentioned earlier), *diffraction, agential realism, agential cut, entanglement, intra-action, spacetimemattering* (Barad, 2007); *vibrant matter, onto-story, thing-power* (Bennett, 2010); *assemblage theory* (DeLanda, 2006); *affect* (Brennan, 2004; Clough & Halley, 2007; Gregg & Seigworth, 2010; Massumi, 2002; Stewart, 2007); *ontopower* (Massumi, 2015); *plasticity* (Bhandar & Goldberg-Hiller, 2015; Malabou, 1996/2013; Ulmer, 2015); *posthuman* (Braidotti, 2013; Colebrook, 2014; Hayles, 1999); *nonhuman* (Grusin, 2015); *individuation* (Manning, 2013); *becoming?-thinker* (Pannell, 2015), *microontologies* (Hird, 2009b), and *viscous porosity* (Tuana, 2008).

As we study this body of literature, we should be careful about consigning work that is different to the same category. Butler's (1992) warning still applies:

> Do all these theories have the same structure (a comforting notion to the critic who would dispense with them all at once)? Is the effort to colonize and domesticate these theories under the sign of the same, to group them synthetically and masterfully under a single rubric, a simple refusal to grant the specificity of these positions, an excuse not to read and not to read closely? (p. 5)

Close reading is required, always required. For example, though as Olkowski (2009) noted, "Barad's onto-epistemology strongly resembles that of Gilles Deleuze" (p. 55), Hein (**this issue**) explains how they are different. We social scientists will have to read philosophy and, even then, not assume that reading an article or two or a book or two is sufficient. Some will complain that philosophy is too hard to read, but why would we want to read what we already understand? Furthermore, like scholars in other disciplines, the philosophers we study may have had long careers during which they changed their minds. Foucault (1984/1985) acknowledged how that happened in his own work as follows: It "is necessary to work hard, to begin and begin again, to attempt and be mistaken, to go back and rework

everything from top to bottom, and still find reason to hesitate from one step to the next" (p. 7). Foucault's caution in moving toward the "new" is to be recommended.

The New

Massumi (2010) explained that by definition, the "new cannot be described, having not yet arrived" (p. 3). So how do we think about this "new new" (Spivak, 1989a, p. 68) of the new empiricisms and new materialisms? What counts as "new?" Who decides? And how new does your work have to be to be considered new? How do new scholars even know if their work is new? These are good questions, which, we think, point again to the necessity of reading.

Scholars doing this "new" work usually make very clear their substantial debt to the "old." Even though Deleuze (1968/1994), for example, began laying out his new image of thought in *Difference and Repetition*, his principal theses for his PhD, he also spent decades studying Spinoza, Hume, Kant, Nietzsche, Kafka, Freud, Proust, his contemporary, Foucault, and others. Feminists doing this new work also acknowledge their indebtedness to those who came before. For example, Barad spent years studying physics and the work of, for example, Niels Bohr. She also credited Haraway, a "second-wave" feminist, whose cyborg exemplifies the entanglement of the human and material. Kirby (2011) wrote that she "was determined not to move on" but stay with Derrida's grammatology and explore its "extraordinary challenge" (p. viii) in thinking questions of matter. Lemke (2015) demonstrated how Foucault and his "government of things" can contribute to the new materialisms. And Whitehead's process theory informs much of this new work.

For Deleuze and Guattari (1980/1987), every actualization of the virtual is new, different, unique, and singular, but it can be captured by the strata and made ordinary (see O'Sullivan & Zepke, 2008; see St. Pierre, **this issue**). Foucault also believed that the new is everywhere in what is happening to us, but we may not see it because it is outside the dominate discourses we use to "see" and think. How do we loosen actualities from the strata? How do we think outside normalizing discursive-material structures that limit us? Rajchman (2001) asked, How do we create "conditions under which something new, as yet unthought arises?" (p. 17).

Spivak (1989b) suggested the stance of "persistent critique" (p. 93). Deleuze (1968/1994) suggested we strip "thought of its 'innateness,' and treat it every time as something which has not always existed, but begins, forced and under constraint" (p. 136). Persistent critique requires that we call into question our most taken-for-granted beliefs, for example, our faith in the truth of "I" in the grammatical structure "I think." But how do we learn to de-naturalize that ordinary sentence and make "I" a fiction? We doubt conventional social science research driven by pre-existing methods and methodologies encourage critique and experimentation; rather, we believe they are designed to stratify and territorialize—to repeat the same, not to produce difference.

Still, some encounter with the world jolts us and demands our attention. It sets our curiosity to work; sends us to the library to read hoping to find others intrigued by the same problem; intrudes in our conversations with colleagues ("Have you ever wondered about —?"); saturates that liminal space–time between sleeping and waking; and, eventually, re-orients our seeing, re-orients our thinking, re-orients being, so that orthodox distinctions fail, normalized boundaries dissolve, and things that are not supposed to relate connect and surge into new intensities. We believe this experience of the empirical is not so unusual but that our training inhibits it. We are required, in the name of valid, systematic science, to force that experience into the structure of a pre-existing methodology that simply cannot accommodate it. The orthodox is always wary of experimentation, but the new empiricisms and new materialisms require ethical experimentation—laying out a plane on which we can create new concepts. Deleuze and Guattari (1980/1987) described resistance to the orthodox as follows:

> Lodge yourself on a stratum, experiment with the opportunities it offers, find an advantageous place on it, find potential movements of deterritorialization, possible lines of flight, experience them, produce flow conjunctions here and there, try out continuums of intensities segment by segment . . . We are in a social formation; first see how it is stratified for us and in us and at the place where we are; then descend from the strata to the deeper assemblage within which we are held; gently tip the assemblage, making it pass over to the side of the plane of consistency [with its] continuum of intensities. You have constructed your own little machine, ready when needed to be plugged into other collective machines. (p. 161)

Scientists, musicians, dancers, filmmakers, philosophers, artists, writers, architects do this—they all experiment. Anyone can do this—everyone has always already done it. It can be as simple, and as complicated, as putting words together differently. Examine every "truth" for its assumptions. Question every "practice" for its assumptions. Destratify. Liberate thought from the dogmatic image that imprisons it. Experiment.

Method

Almost 30 years ago, Sandra Harding (1987) made helpful distinctions among the terms method, methodology, and epistemology, defining methods as techniques for gathering evidence and methodologies as broader, theory-driven frameworks for how projects should proceed. Epistemology is the theory of knowledge (e.g., empiricism, rationalism)

that, together with ontology, the theory of being, enables methods and methodologies. Social science inquiry has, generally, followed these definitions and produced materials (and ideologies) about *teachable research methodologies and methods*. At the beginning of this introduction, we described oppositional logic and the categorical distinctions that flow from a modern, dualist frame: male/female, Self/Other, and so on. Similarly, we see the *teaching* of method and methodology still embroiled in a theory/practice binary that may be incommensurable with the new empiricisms and new materialisms. As Deleuze and Foucault (1972/1977) wrote, "Theory does not express, translate, or serve to apply practice: it *is* [emphasis added]practice" (p. 208). Perhaps one upshot of the work of thought in the "new" is that we give up a container model of inquiry in which all elements (e.g., data, analysis, representation) are isolated, distinct, and appear in a pre-determined sequence.

What the "new" ushers in, therefore, is a re-imagining of what method might *do*, rather than what it *is* or *how to do* it. If we take seriously that there is no "doer behind the deed" but that the doer is produced either by or alongside the deed, then the work of method is not completely in our control and must be constantly re-thought and re-claimed in each specificity. Manning and Massumi (2014) offered guidance: "Technique . . . belongs to the act. Techniques are not descriptive devices—they are springboards. They are not framing devices—they activate a practice from within. They set in motion" (p. ix). We have described practices in the new in this same sense as emergent, experimental, and contingent. Method in the new, then, might be characterized as emergent in the act of creation, and generative components may not have a beginning, middle, or end that can be scripted—only anticipated and undergoing constant multiplications and eruptions into different areas (Deleuze & Foucault, 1972/1977). Discussing his power/knowledge analysis, Foucault (2000) explained, "What I've written is never prescriptive either for me or for others—at most it's instrumental and tentative" (p. 240). We wonder, then, if something as tentative as a recognizable and containable method or methodology in the "new" can be taught and applied. Indeed, Deleuze (1962/1983) wrote, "Thought does not need a method" (p. 126). This new work is not trivial work, and we caution that we are not advocating that a social science researcher begin her work by, for example, "laying out a plane" in a research proposal instead of writing research questions. It is more a matter of reading enough philosophy to have a sense of the plane normalized social science research is already on. As we wrote earlier, social scientists typically do not study philosophy, and we expect few of us can attain the stature of Descartes or Deleuze or Deleuze with Guattari and lay out planes of thought that upend philosophy. At best, we might attempt what Deleuze and Guattari called a "groping experimentation" (1991/1994, p. 41). Or, we might even heed DeLanda's (2002) thoughts regarding the question, What guides Deleuze's philosophical speculation? "One way of looking at this question is to see Deleuze as engaged in a constructive project guided by certain proscriptive constraints, that is, constraints which tell him not what to do but what to avoid doing" (p. 21). Bryant (2008) offered some cautions about "what to avoid" when he wrote,

> When Deleuze tells us that the aim of philosophy ought to be to determine the conditions under which something new can be created (Dialogues, vii), we ought to understand that Deleuze is asking how it is possible for forms of intuition or sensibility to be produced. However, as we shall see, this production is not the work of a sovereign subject, but is a production that occurs at the level of being itself. Later in this book I shall attempt to show that we must be skeptical and conservative concerning our own powers of invention. Just as Nietzsche claimed that thoughts come to us, we don't originate thoughts, so too must we understand that we are not the creators but are the result of these invented intuitions. The *will* to create will most likely end up in trite imitations of what already belongs to the field of the recognized. We do not set the problems to be solved, but instead find ourselves in the midst of problems which function like imperatives to which we must respond. (pp. 9-10)

Method, then, might emerge in the middle of problems that are not to be solved but problems that need a different response—attending to the conditions under which problems emerge. As Bryant claimed, even the creation of something "new" runs the risk of repeating old habits of thought. That is, every production of the new must remain open to the outside, which will contaminate and disrupt it. Stengers (2008) described all modern territory—and in this, we include so-called teachable methods and methodologies—as thriving on "an ever-going process of capture" (p. 39) that mobilizes a particular practice or definition by denouncing others. Stengers went on to claim that to avoid this process, we must "slow down" and "make perceptible not only the way territorial forces act but also what it might take to escape capture" (p. 39). Stengers' method involves experimentation and activities that constantly interrogate how things are made, including what Bryant (2008) referred to as "own powers of invention" (p. 9). To circle back, this involves understanding how things are produced, become perceptible, and are captured.

Gane (2009) similarly addressed the problems of concept creation in the new empiricism, claiming that concept formation in the social sciences is "few and far between, and even concepts that continue to be pivotal, such as [socio-economic] class, are all too often presupposed or rehashed rather than given a new lease of life" (p. 95). To avoid bland repetition without difference, Gane (2009) called for lifting concepts from their histories, *re*-working and *re*-inventing them, turning back to go forward:

> Creative readings are needed that value concepts according to their potential to offer something new. This might broaden the

> current sociological imagination, and reinvigorate the challenge of confronting the empirical in thought. But for this to happen, sociology must first return to some basic although now neglected questions: what are concepts, under what conditions do they emerge, and to what purposes can they be put? (p. 95)

We wonder whether conventional, pre-given methodologies can be useful in this new work, given that it calls for experimentation and ethical experimentation at that. We may well have to give up the comfort of method, which often seems designed to stifle curiosity as we move from one pre-determined step to another and another.

All this leads us to consider how we might teach this new work, or, more to the point, as mentioned earlier, what to avoid teaching (see St. Pierre, **IN PRESS**). We certainly don't want methods textbooks on new material, new empirical methodology with a new "research process" and new "research designs." Stratifying this new work is to be avoided. As we noted earlier, we don't recommend the trivial laying out of a plane or the willy-nilly creation of trite concepts. Zourabichvili (2003/2012) wrote that the *rhizome*, one of Deleuze and Guattari's most famous concepts, is the "method of the anti-method" (p. 208). Put simply, we can't tell someone how to do this new work, *how to think*, how to experiment, how to tip an assemblage toward the plane of immanence. Our best advice is to read and read and read and attend to the encounters in our experiences that demand our attention. If we have something different to think with, we might be able to live on a different plane of thought, a different plane of experience.

Concluding Thoughts

In this introduction to the special issue on new empiricisms and new materialisms, we focused not on what those bodies of thought *are* or *mean* but on two conditions we believe enable them: an *ethical imperative to rethink the nature of being* and a *heightened curiosity and accompanying experimentation*. Following Deleuze, we suggested we might think of this new work as the *laying out of a plane*, which calls for *new concepts* that help us think and live differently. We described Descartes' plane of thought, a dogmatic image of thought, that separates mind and matter, the human and the world, and drives much social science research. We also briefly described Deleuze's and Deleuze with Guattari's experimental plane of thought, the plane of immanence. We explained that the new empiricism's and new materialism's plane of thought *cannot be described because it is being laid out*, though its focus is clearly ontological. We did, however, list some concepts that this experimental ontology has enabled thus far.

We argued that conventional, orthodox social science methodologies cannot accommodate this "new" work. Throughout this introduction, we stressed that philosophical questions are deeply embedded in empirical inquiry, and that the philosophy/science divide is not helpful as we try to inquire differently, to experiment, and to rethink the nature of being. Years ago, Bourdieu (1987/1992) recommended "fieldwork in philosophy" (p. 3), an approach that has already been taken up in social science inquiry (e.g., Flyvbjerg, 2001) and might serve as an orientation as we continue.

No doubt, those we might categorize as "new materialists" and "new empiricists" will refuse those labels because there is no essence to center such structures. What we are interested in is how people think and what they do after having studied the philosophy that enables this "new." It is clear that the authors who kindly accepted our invitation to write for this special issue were intrigued by very different encounters with the world that compelled them to experiment, and their articles, which we describe below, exemplify, above all, that difference.

Elizabeth A. St. Pierre, concerned that social science researchers are not familiar with empiricism itself even though they are charged to do empirical research, describes the empiricism of phenomenology and logical empiricism that dominate much social science inquiry. Surprisingly, these incommensurable empiricisms are used together in the same study, especially in mixed methods studies. She then sketches Deleuze and Guattari's *transcendental empiricism*, an experimental empiricism, which is being used in much new empirical, new material inquiry. St. Pierre's recommendation is that social science researchers study the epistemological and ontological assumptions that ground the empiricism they use before they use it.

Patti Lather offers readers what she has learned about the ontological turn through a survey of theories and methodologies that inform a posthuman approach to the subject, agency, materiality, and affect. Each iteration takes a particular aspect or concept in "the new" and offers Lather's musings on how the turns work in both philosophy and the social sciences. She moves through theories of humanism, neo-liberalism, and "the posts" to map a landscape of relational ontologies, entanglements, and diffractions. The lines drawn on Lather's map include not only continental philosophers but also contemporary social scientists doing exemplary, conceptually informed research. Similar to de Freitas's points about contagion, Lather describes "the new" as "motored by practice" by "infiltrating/embedding/infusing, not killing. Intensifying, multiplying and extending its realms of application, such change is wholly immanent." She concludes by summarizing what the ontological turn and the new materialisms can contribute to policy analysis and a new field of so-called mixed methods research, which she terms "cultural studies of numeracy."

Serge Hein provides a much needed clarification of the ontological differences between the work of Karen Barad and Gilles Deleuze whose work appears, on the surface, to be quite similar. Hein compares Barad's agential realism

with Deleuze's philosophy of immanence. Noting first that immanence is seldom used in the qualitative research literature, he provides a helpful description of immanence as it is used in general in philosophy and in particular in Deleuze's philosophy of immanence. This discussion helps explain how Deleuze's materialism is different from more conventional understandings of materialism. Hein next moves to a discussion of how language is treated differently in Deleuze and Barad and then to a philosophical discussion of identity and pure difference, difference in itself (Deleuze), which is not the same as negative difference (difference from). His conclusion is that the fundamental difference in Barad's and Deleuze's philosophy is that hers is a realist philosophy and his is a philosophy of immanence.

Christopher Schulte, an art educator provoked by an encounter with two young children drawing for a school assignment, uses Karen Barad's work to help think that encounter as an ontological problem and Bronwyn Davies' work on listening to help think outside common sense, normalized practices of listening in which we fit what we hear into what we already know. All this helps Shulte question the underlying assumptions we have about children's drawing and even their existence.

Lisa A. Mazzei offers an antidote to "empirical oblivion" in thinking voice without a subject in the new. Putting to work Deleuzian concepts, she presents voice not as a "thing" but as a process of couplings and connections, always becoming. Thinking first with Deleuze and Guattari's concept of the *body without organs*, and then with Deleuze's concept of *duration* (from his reading of Bergson), she re-imagines voice that starts with an ontological unit no longer that of the individual human being nor bound by the mathematical limits of time. She argues that "the unit that forms the basis for my inquiry is becoming-voice."

Dorte Marie Sondergaard's research on the relation of children's and teenager's use of computer games and film with high levels of violence and later aggressive behavior caused her to question the conventional causal relation between the two. She uses Karen Barad's agential realism of intra-active enactment of material-discursive phenomena along with Judith Butler's poststructural ideas of subject formation to provide a more complex, nuanced analysis of interview data with two teenage boys. The boys' conversations indicate that games and films are not necessarily the primary sources of violence in their lives and that violence is, in fact, distributed across their existence. Sondergaard provides data that tellingly illustrates the flows of violence and aggression that intra-act in the boys' normalized existence to produce them as subjects.

Maggie MacLure poses the problem of what a materialist theory of language might involve and how it might be put to work in the new. Her article is animated by the image of the child in the work of Deleuze and Guattari, in particular, the image found in *A Thousand Plateaus: Capitalism and Schizophrenia*. She specifically puts to work the concept of the *refrain* or *ritornello*, to consider how a-signifying semiotics might carry us, as researchers, into unforeseen trajectories. She foregrounds her work with a discussion of how and why language is an issue for new materialist thought and practice. Three "refrains" from classroom video recordings illustrate how children challenge the "rules of grammar that order and subjugate the world" and ask how those challenges might influence qualitative methodology.

Alecia Youngblood Jackson re-imagines Deleuze and Guattari's concept of *the refrain* to present an ontology of a cheerleading backflip. Gathering associated concepts of rhythm, milieu, territory, and chaos, Jackson extends the refrain to include its minor, nonsonorous forms of gestures, postures, and movements to map the emergence of a territorial refrain as an ontological becoming. She concludes that the refrain is a vital concept for experimentation with lines of flight that make perceptible how territories are made, how they thrive, and how they are threatened.

Marek Tesar and Sonja Arndt explore the vibrancy of matter in the context of early childhood education. Drawing on the work of Bennett, Barad, and other material feminists, they examine "vibrant things and thing-hoods, agency, and childhoods" in a theoretical re-reading of Foucauldian thought through new materialist philosophies. This re-reading, or what they refer to as a deterritorializing of Foucault, provides a robust materialist theorizing of Foucault's notion of power, offering an examination of how matter is subject to docility and disciplining. They argue that "Foucauldian relations of power operate in ways that also affect matter and . . . strengthen ways in which matter matters."

Carol A. Taylor embarks on a "close encounter of a critical kind" as she presents an embodied diffraction of new material feminism and object-oriented ontology (TripleO). Her article functions as an exemplar of *diffraction* in that she works different notions of diffractions and materialisms with and against one another. Her aim is critique, not for the purpose of negation hostility, or destruction, but critique as a "close encounter" with another way of thinking that can differently animate thought. The close encounter that Taylor provides results in a rich discussion of how matter matters differently in material feminism and TripleO.

Hillevi Lenz Taguchi engages multiple disciplines of knowledge production to trace and map the neuro(n) in education. Her analysis uses Claire Colebrook's recent work at the intersections of vitalism, the life sciences, and extinction to trace the neuro(n)'s conditions of creation. In exemplifying a "concept as method" pedagogy of practice, Lenz Taguchi tracks the movements of the neuro(n) from its linguistic and scientific function as a cell of the nervous system to its profusion in psychology, philosophy, and education. This mapping shows the conditions of its

re-configuration and re-creation from a "scientific functive" to a philosophical concept. Her analysis uses the enactments of the rhizome, lines of flight, and diagramming to map out a territorialization from which ruptures can occur and offer new ways of understanding the creative process of individuation via the neuro(n), vitalism, and education.

Elizabeth de Freitas draws on both Deleuze and Latour in her mapping of a *fractal monadology* to propose a methodological and philosophical framework for research in the social sciences. A *fractal monadology* contributes to a new empiricism with its refusal of oppositional difference and binary constructs of human and nonhuman agency. Digitality and data are also re-thought in this framework, via an engagement with Deleuze's continuous fold. De Freitas argues that *the fold* offers a new figuration for considering the flows of digitality (and thus data) as twisting and pleating, expanding relationality contiguously, across all types. The fold, in de Freitas's analysis, is entirely ontological, and her reading of Gabriel Tarde's historical and sociological texts offers an explication of relational ethics and affective expression inherent to the immanence of life. What is "new" in terms of both empiricism and ontology, for de Freitas, is how monadology rebukes epistemological issues in postmodernism and deconstruction as it has been practiced in social science research: Relationships and difference are not bound to relativism but are theorized as contagion and force (and thus ontological). De Freitas writes, "Learning is a process of feeling the contiguous links that are woven together to form the fabric of the monadology. Thus knowledge is based on haptic encountering (touch) rather than representation and image." To claim this new methodology of monadology for the social sciences, de Freitas describes the use of digital data (such as Twitter and other social media sites), algorithms, cybernetics, and big statistical data to speculate on a research method that will ultimately contribute to a philosophy of immanence and the emergence of a qual-quant paradigm that is a counternarrative to calculation. De Freitas concludes by arguing for a return of "computation as immanent to matter," rather than separate or discrete. Her argument has purchase for both ontological and empirical concerns in the "new"—Data are no longer discrete bits of information but are continuous, unfolding, and repetition-with-a-difference, thus exchanging units for topological folds in the monadology.

We hope these attempts at creation and experimentation, all grounded in the ethical imperative to rethink relations of being, inspire others to do the same based on encounters in their own lives that overtake them and pose problems that demand their best work.

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