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## Diffractive methodologies: Feminist new materialism and the practice of social inquiry

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#### Summary:

Emerging new materialist philosophies of science, as articulated in particular by feminist theorist and physicist Karen Barad, propose performative understandings of knowledge practices in which the latter are seen as constitutive of their objects of study. In this paper I draw on feminist new materialism, and the diffractive methodology associated with it, and consider its implications for social science methodology. I explore how this diffractive methodology reconfigures our philosophical understanding of research methods, and I propose four concepts-practices for enacting this conceptualisation and practice: 'metaphysical practices' (Mauthner 2016); the 'apparatus of bodily production' (Haraway 1988 Barad 2007); 'situated knowledge' (Haraway 1988); and 'diffractive genealogies' (Mauthner 2016). My key interest is how emerging feminist new materialist philosophies might cause us to reconceptualise our understandings of research methods and the conduct of empirical inquiries in the social sciences; and how diffractive methodologies may provide an alternative offering to 'post-qualitative' research and the 'social life of methods'.

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Against a background of renewed interest in materiality in the social sciences (Mitev and de Vaujany 2013, Orlikowski 2007), this paper considers what this 'material turn' might entail for the practice of qualitative research in the field of business and management studies. The notion of materiality has been conceptualized in diverse ways across different theoretical traditions. Reckwitz (2002), for example, suggests that materiality has been variously understood as 'social structures', 'symbolic objects' and 'material artifacts'. In this paper, I take up a new materialist understanding of materiality as 'materialization'. New materialist theories, however, do not constitute a unified approach, and my specific focus is on the conceptualization of materiality advanced by Karen Barad (2007), one of the most prominent contemporary new materialist scholars. Barad proposes a conceptualization of materiality as ontological processes of materialization. On this approach, materiality is not understood as a material substance that is fixed and given. Rather, it is an ontologically dynamic process that on-goingly remakes itself through processes of materialization. In proposing a notion of materiality that refuses to take its own materiality and existence as ontologically given, Barad's conceptual notion of materiality implies a non-essentialist ontological understanding of materiality. In this respect, Barad puts forward not only a new concept of materiality but also a distinctive non-essentialist ontology. In contrast to concepts of materiality that assume an underlying material and/or cultural essence to the world, Barad's concept does not presume the ontological existence or given-ness of any-'thing'. She develops a metaphysical framework, which she calls 'agential realism', on the basis of this non-essentialist ontology. Agential realism is concerned with the ontological processes of formation through which all entities are brought into being. Critically, agential realism refuses to take its own existence as given and insists that it accounts for the processes of formation through which it materializes itself. Agential realism, then, is a metaphysics that accounts for its own material and ontological existence and for the material role that it plays in materializing the ontology of the world.

Agential realism constitutes a metaphysical departure from major Western philosophical and scientific traditions, albeit one that is also indebted to them. In particular, it diverges from naturalistic and social constructivist approaches in terms of its ontological commitments. Naturalistic inquiry in the social sciences seeks to understand the true nature of the social world. It treats the social world as an objectively fixed reality that awaits human discovery. In this sense it assumes the ontological existence and given-ness of a social world that has an objective and material substance, and that is understood to be already 'out there'. Examples of this approach in qualitative research are studies that treat research participants' accounts of their lives, and researchers' reports of these accounts, as transparent representations of preexisting empirical realities. Constructivist approaches reject this idea and propose instead that the social world can only be accessed and understood through discursive, interpretive, and cultural meaning-making processes. In this sense, they take the existence of culture as an ontological given, and redefine empirical and material realities in discursive terms. Agential realism contrasts with both naturalistic and social constructivist approaches, and philosophical variations of them, in that it does not commit itself to the ontological existence of material and/or cultural entities.

Taking up an agential realist metaphysics, and its non-essentialist ontology, therefore challenges many long held, normative and often implicit ontological assumptions that are built into the ways in which we conceptualize and practice social inquiry. One of the ways in which it reconfigures research is by shifting our philosophical conceptualization of knowledge-making practices from a *representationalist* to a *performative* understanding. As already indicated, naturalistic and social constructivist forms of inquiry assume that

knowledge represents pre-existing material and/or cultural worlds. Barad argues that while we have tended to understand naturalism and constructivism as philosophically distinct traditions, they share a commitment to an essentialist ontology: naturalism takes the material world, while constructivism takes the cultural world, as ontologically given. Both traditions, she suggests, ignore practices of representation: that is, the processes through which 'natural' and 'cultural' entities (and the division between them) come to be represented and constituted as such. Agential realism pays attention to these practices of representation, and conceptualizes them as natural-cultural or material-discursive ontological processes of materialization that perform the world into being by giving it both an ontological existence and an ontological form. That is, practices of representation both materialize the world into existence, and, in doing so, materialize it into specific kinds of entities. For example, research practices – including qualitative inquiry – constitute not only human identities (and therefore also their binary other, non-human identities – such as animals and machines – and the ontological separation between the human and the non-human) but also specific forms of human identities in terms of gender, race, ethnicity, class, sexuality and so on. The argument is that research practices neither discover pre-existing identities, nor do they provide interpretations or constructions of these identities. Rather, research practices, along with many other kinds of practices, help constitute specific kinds of identities (humans, animals, machines) as well as specific categories of human identities (men, women, White, Asian, Black, working-class, middle-class, and so on). It is in this sense that agential realism puts forward a performative conceptualization of research practices that contrasts with representationalist (naturalistic and social constructivist) formulations.

In seeking to develop a methodological practice for enacting a posthumanist performative metaphysics—that is, a practice that can attend to and account for its own metaphysical specificity, and that of the objects and subjects that it intra-actively produces—Barad draws on the physical phenomenon of diffraction. Building on Haraway's (1992, 1997) suggestion of embracing a different optics in science studies—diffraction rather than reflection—and on a longer genealogy of the concept of diffraction threaded through quantum physics and feminist theory (Barad 2014)—Barad proposes that we think of scientific practices in terms of "diffraction apparatuses." In physics, diffraction is "an intra-active phenomenon, and as such does not hold one set of concerns as preexisting or stable or primary over another" (Barad 2011, 449). Diffraction does not fix what is the object and what is the subject in advance. Thus, diffractive "knowing does not come from standing at a distance and representing but rather from a direct material engagement with the world" (Barad 2007, 49). On my reading, this material engagement takes the form of practices that account for their performative role in bringing themselves, the knowing subject and the object of study into being. These are practices that account for their own non-innocent (Haraway 1991: 121) metaphysical specificity and that of the phenomena they intra-actively produce (Mauthner 2016). These kinds of diffractive practices require specifying the metaphysical assumptions that they embody and enact. This metaphysical specificity is how the material-discursive nature of practices helps constitute the world. Practices of inquiry are a performative, constitutive and ineliminable part of the subjects and objects that they produce. On my reading, working in a diffractive way entails a practice that is non-essentialist and that therefore requires specifying and enacting the metaphysical terms on which our knowledge practices engage with the world: "a diffractive methodology requires a way of understanding the world from within and as part of it" (Barad 2007: 88).

Agential realism, and its diffractive methodology, therefore require a different approach to research practice. Whereas objective and reflexive practices enact commitments to an

essentialist ontology, diffractive practices enact a commitment to a non-essentialist ontology by accounting for their own ontological existence and for the role they play in materializing the ontology of their objects of study. Picking up on the example above, diffractive practices account for the concept of identity they embed and enact and for their non-essentialist conceptualization of this concept. Significantly, while reflexivity involves *researchers* accounting for cultural influences on knowledge production systems and objects of knowledge, diffractive practices involve *practices* accounting for their own ontological existence, their ontological assumptions and the ontological entities they help bring into being. Thus, while reflexivity is an epistemological practice that locates epistemological agency, accountability and responsibility with human researchers, diffraction is an ontological – or what Barad (2007: 185) terms 'onto-epistemological' – practice that locates ontological agency, accountability and responsibility with practices themselves.

While Haraway and Barad propose a diffractive methodology they provide few details on how this might be enacted within the context of specific empirical scientific projects. Furthermore, the implications for the social sciences have yet to be fully explored. The issue I am keen to explore in presenting this developmental paper is what this diffractive methodology might entail for our conceptualisation and practice of research methods in the social sciences. Normative ways of understanding and practising research methods position them as tools and techniques that researchers use either objectively to discover pre-existing worlds or reflexively to socially construct worlds. In both cases, methods are understood in technical terms as fixed and readymade instruments that can be taken off the shelf and applied to knowledge projects. On a new materialist approach, methods are reframed as having an ontological life of their own—an ontological genealogy through which they come into being in specific ontological forms that embody particular conceptual and ontological assumptions. These assumptions, which are enacted through the practice of these research methods, also come to be embodied in the specific knowing subjects and objects that these methods produce. A diffractive methodological practice is a practice that specifies and accounts for these conceptual and ontological commitments, and their performative effects.

A diffractive methodology therefore reconfigures our onto-epistemological understanding of what methods are, what they do, what they produce, and how they are practiced. I have been experimenting with four concepts-practices as means of bringing about this ontoepistemological reconfiguration of methods. First, I suggest reconceptualising methods as 'metaphysical practices' or philosophies in action to move away from the notion that methods themselves are neutral and a-philosophical techniques. Second, I draw on Haraway's and Barad's notion of the 'apparatus of bodily production', and Foucault's concept of the apparatus to which it is indebted, to further conceptualise the ontological and performative nature of methods without recourse to an intentional humanist subject. Third, I draw upon Haraway's (1988) notion of 'situated knowledge' to rethink methods as producers of philosophically accountable and 'situated knowledge', rather than objective or reflexive knowledge. Fourth, I propose 'diffractive genealogies' as a method for putting into practice this ontologically reconfigured understanding of research methods. Diffractive genealogies, I suggest, provide a means of enacting methods as 'metaphysical practices' and 'apparatuses of bodily production' that produce 'situated knowledge'. Diffractive genealogies are a method for enacting a non-essentialist metaphysics. They are a way of studying and materialising the world without taking this world as ontologically given. My research seeks to flesh out this proposed enactment of a diffractive methodology and its implications for research in business and management.

I am also interested in how this interpretation and enactment of a diffractive methodology speaks to innovative approaches to conceptualizing and enacting research methods that have emerged in response to the material turn including 'post-qualitative' (St Pierre, 2011) inquiry and 'the social life of methods'. Post-qualitative studies share sensitivity to the material dimensions of research, where attention to materiality is conceptualized and put into practice in different ways. One aspect involves highlighting the human bodies, physical objects, environmental settings and research tools involved in research (Fox and Alldred 2015, 2016; Lenz Taguchi & Palmer, 2013; Taylor & Ivinson, 2013). Another aspect is an insistence on developing philosophically-informed practices as a means of translating philosophical and conceptual assumptions into material research practices (e.g. St Pierre, 2011, 2015) by making explicit the ontological and epistemological assumptions that underpin research, and by developing research that is grounded within new materialist philosophies, as an alternative to realist, social constructivist and humanist ontologies (e.g. Coleman & Ringrose, 2013; Hultman & Lenz Taguchi, 2010; Koro-Ljungberg, 2015; St Pierre 2014; Jackson and Mazzei 2012).

There is a further trend to rethink methods within sociology and science and technology studies, which has come to be known as the 'social life of methods' (Law et al., 2011; Savage, 2013). These interdisciplinary studies, influenced in part by actor network theory and its material-semiotic understanding of social networks, take the 'social science apparatus' (Savage, 2010) as an object of critical analysis – including its theories, concepts, and measurement practices (e.g. Adkins & Lury, 2011; Callon, 1998). They seek to understand how this apparatus has been shaped by, and in turn helped to shape, material, social and historical processes (Back & Puwar, 2012; Law, 2004, 2009; Law & Urry, 2004; Lury & Wakeford, 2012; Ruppert, Law, & Savage, 2013; Savage, 2010, 2013).

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