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## Quantum Physics and/as Philosophy: Immanence, Diffraction, and the Ethics of Mattering

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### Abstract

Karen Barad's work distinguishes itself as a diffraction pattern of quantum physics, feminist/queer thought and/as philosophy. In order to gauge the ethico-onto-epistemological impact that the shift toward 'quantum' has on theorizations of what we call 'world' and 'Being'—those 'big' philosophical questions—it helps to relate her thought to other philosophical endeavors that also work on this foundational level. In this contribution I propose to read Barad's quantum ontology alongside Gilles Deleuze and Félix Guattari's urgent quest of immanence. It is this concern for immanence, according to their final collaboration *What is Philosophy?*, which still has to be seen as "the burning issue of all philosophy".

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[T]he becoming of the world is a deeply ethical matter.  
— Karen Barad (*Meeting* 185)

Arrive at the magic formula we all seek—  
PLURALISM = MONISM  
— Gilles Deleuze and Félix Guattari (*Thousand* 20)

[1] Karen Barad's work distinguishes itself as a diffraction pattern of quantum physics, feminist/queer thought and/as philosophy. In order to gauge the impact that this shift toward 'quantum' has on conceptualizations and theorizations of what we call 'world' and 'Being'—those 'big' philosophical questions—it is helpful to relate her thought to other philosophical endeavors that also work at and on this foundational level. What my short contribution wants to show is how and that Barad's quantum ontology can be read most productively alongside Gilles Deleuze and Félix Guattari's quest of immanence. This concern for immanence, according to them, still has to be seen as "the burning issue of all philosophy" (Deleuze/Guattari *What Is* 45).

[2] Barad's quantum *indeterminacy* as onto-epistemological condition provides a most attuned 'image of thought' for Deleuze and Guattari's 'founding' plane of immanence. And by thinking their ontology of becoming with Barad's agential realism, a new line of flight for ethics can also be developed that, in resonances with Levinas, becomes 'first philosophy' (*ethico-onto-epistemology*). In a second step, therefore, my contribution also wants to argue that rather than being irritated—from a posthuman(ist) perspective—by Barad's move towards such Levinasian horizons at the end of *Meeting the Universe*

*Halfway*, her ethical entanglements are a most timely continuation of the urgently needed deconstruction of reductive positivist ontologies of presence that fail to account for the (always ambiguous) consequences that any 'cut'—however necessary—produces.<sup>[1]</sup>

## Immanent Ontologies

[3] To find the right entry point into such a short intervention is not easy. There seem to be too many ways to engage the discussion. And given the considerable complexity of the issues at stake, the aim to produce an encounter that matters between the philosophical quest for immanence and the quantum universe of ethico-onto-epistemology proves a not so simple task. I will start 'in the middle' by choosing a line of thought that has so far provided me with the arguments to rethink the nature of 'what is' as dis/continuous becoming (to already phrase things Baradian here); and—following from this—to position ethics as no longer secondary, i.e. after metaphysical/philosophical issues are settled, but as directly inhering in(to) the onto(-epistemo-)logical endeavor, which means that they are always/already at stake in the processes of meaning-making and knowledge-production. The specific line of thinking that I want to present runs via Deleuze's poststructuralist philosophy, which articulates the infinite (but immanent) capacity of 'world' as 'different/ciation'<sup>[2]</sup> and, even more specifically, via an emphasis on its (materialist) Spinozian heritage, such as it has been worked out especially in the writings of feminist thinkers, including Rosi Braidotti, Claire Colebrook, and Elizabeth Grosz. Following these scholars in their 'flattening' of ontology in which a thought of difference is practiced that no longer *begins* with (an) identitarian O/one(s) but with "difference in itself" so that "difference must be shown *differing*" (Deleuze, *Difference* 56), we approach what with Barad we can call a relational ontology. It is an ontology in which individualized things and objects are no longer presupposed as simply 'there', in which even the world itself is not simply 'given' and 'out there', but in which every-thing is accounted for as an enactment of the *entangled* nature of nature, "since phenomena entail the inseparability of physical systems, which become distinguishable only as determinately bounded and propertied subsystems...through their *intra-action*" (*Meeting* 328, my emphasis).<sup>[3]</sup> Like Barad's agential realism that dares to think-practice a different make-up of 'world' with-in quantum matters, the quest of immanence in Deleuze and Guattari creates an ontology that no longer bases itself on a prescriptive split separating the differentiating processes (immanence) from *a priori* 'laws of nature' or the old Platonic *ideational* heavens (transcendence), but instead imagines an "immanence immanent only to itself" (*What is* 45).<sup>[4]</sup> If taken rigorously, they say, immanence can no longer be immanent to something else—"a dative', Matter or Mind"—, but it must (for lack of better words) be *radically* immanent (ibid. 45). Only then does thought manage to position itself *diesseits* or *before* the common stage of splits and hierarchies that are dominating most of our philosophical thinking.<sup>[5]</sup> Instead of assuming a given (material) world upon which or within which (cultural) processes and changes happen, the infinite processes of (un-)becoming<sup>[6]</sup> of the world in this differential scenario are in a Baradian sense 'entangled' practices, strongly affirming the *principal* indeterminacy and inseparability of subject and object. It thereby undoes the usual distribution of active and passive capacities, i.e. who/what is an actor and who/what an acted-upon body, with-in-of this world and its dis/continuous enactment.<sup>[7]</sup>

## Exploring Ethico-Onto(epistemo)logy

[4] The most fascinating aspect of such a radically immanent philosophical framework is that this outspoken project of immanence envisions not only a different ontology – an ontology of becoming—but also a new line of flight for ethics. Or better still, such a rigorous—radically immanent—ontology of becoming forces the question of the ethical to emerge differently, and thus it can provide us with new ways of engaging with ethics. Contrary, therefore, to the prejudice that a concern for ethics is generally absent from the philosophical legacy of poststructuralism, and that Deleuze's provocative style of philosophizing supposedly makes him a prime example of this characteristic relativist nature of the 'poststructuralist turn' (a prejudice that still inhabits quite a lot of academic discussions, the many counter-arguments notwithstanding), to me a (Deleuzian) thought of becoming cannot but express an ethical concern *everywhere*. It draws a thinking of this world as radically immanent from a philosophizing of difference in which difference "become[s] the element, the ultimate unity; it must therefore refer to other differences which never identify it but rather differentiate it" (Deleuze, *Difference* 56). From this complex 'beginning', starting with difference and seeing the process of different/iating as 'all there is', the (ethical) question of *how* this process becomes enacted (which is always in the 'singular plural', to borrow from Jean-Luc Nancy), cannot but present itself at every turn; or, to say it with Barad, with every agential cut. It affects—and thus shows effects on—every practice, even the thinking of thought itself. The ontology of becoming in the Deleuzian legacy of radical immanence, in which the different/iating powers are on but one processual level, in this sense resonates well with a Baradian relational ontology in which "the world is an ongoing intra-active engagement, and bodies are among the differential performances of the world's dynamic intra-activity, in an endless reconfiguration of boundaries and properties, including those of spacetime" (Barad, *Meeting* 376).

[5] A thought based on 'difference in itself' is always/already (ethically) *concerned* or *charged*. By not taking refuge in any transcendent(al) *apriori* that governs practices in a prescriptive manner, such thinking *and* (en)acting (in) this world emphasizes the *necessary* openness (indeterminacy) and the constitutive undecidability of every-thing.<sup>[8]</sup> It matters at every moment *how* we (en)act (in) this world. Already in his 1968 *The Logic of Sense*, therefore, Deleuze gives ethics the following—challenging—twist: "Either ethics makes no sense at all, or this is what it means and has nothing else to say: not to be unworthy of what happens to us...Nothing more can be said and no more has ever been said: to become worthy of what happens to us, and thus will and release the event" (149-50). This different ethical imperative gives a lot of food for thought. It moves the ethical discourse from one focused on the right conduct (assumed as given), towards one that exposes itself to the real precariousness and ambiguity of each and every of our practices. Not to be unworthy 'of what happens to us' cannot be more determinate in its *utter indeterminacy*.

[6] And yet, when looking at the Deleuzian formula even more closely, in one respect it does turn out to be *not precise enough*: 'To become worthy of what happens to us, and thus will and release the event' as guiding the ethical concern cannot but always beg the question about the *distribution of any specific powers* of the 'differing difference(s)'. How, we are bound to ask, will this formula *at least potentially*

prove to be a force that engenders ethico-politically desired events, such as a worlding-with-others instead of a 'world without others'? I.e. how, in a purely differential world from which there is no escape, do 'we', to say it with Donna Haraway, *response-ably work for some worlds and not others*, "for more livable 'other worlds' (autres-mondialisations)"? (*When Species* 41).<sup>[9]</sup> Is there not something more to be said?

### Diffraction Differences

[7] This further concretization of the ethical as-with-in *daily earthly practice*, which is not coincidentally left open in the Deleuzian articulation, has for me become a most fundamental issue for a thought 'otherwise-than-being'—its compromising proximity to a 'morality', i.e. an Ethics in the capital E sense, notwithstanding. And further conceptual engagement seems to be needed if we wish to specify *how to negotiate* the different/cial configurations (that are always/already shared onto-epistemological entanglements and, thus, beyond any classical notion of a wilfull subject). It is at this point that the concept and thought of *diffraction* becomes so meaningful, such as it is introduced in Haraway as a difference "committed to making a difference...a narrative, graphic, psychological, spiritual, and political technology for making *consequential meanings*" (*Modest\_Witness* 273), and in Barad as "*taking responsibility* for the fact that our practices matter; the world is materialized differently through different practices" (*Meeting* 89, my emphasis). Diffraction, if we take it as the complex apparatus that both *diffracts* difference(s) and *is* difference(s) diffracted, provides for me a crucial specification for the philosophies of difference I have outlined here. Its explicit emphasis on 'consequential meanings' and 'taking responsibility' are specifications that a (purely) Deleuzian account ultimately does not provide us with. A specifically feminist approach is shown to be essential to the equation here (and it thus also matters to refer back to the specific voices of the (materialist) feminists that I named as my entry into an ontology of becoming and/as ethics of becoming). It is only with-in this always/already politically entangled tradition that another line of flight for ethics is produced—a non-moralistic ethics, yet one that nonetheless remains committed to a political project (and let's just call that 'feminism' (singular plural)). Never striving for a pure neutrality in thought-practices, but accounting for one's implications with-in the material-semiotic/discursive net, the feminist legacy at its best (and again—in the singular plural) works through the complexity of levels and lines of entanglements active in the differential processes of becoming. And in order 'to make a difference'—perhaps the feminist equivalent to the formula 'to become worthy of what happens to you'—it is this demanding *complexity* that has to be attended to in adequate detail.

[8] Therefore, an ontology of becoming, expressing 'difference in itself', can be further specified via diffraction so that what is thought and enacted in 'becoming' is not merely the grasping of the indifferently ongoing processes of different/ciation that make up this world, but becomes committed to making a difference and thus to open the process of different/ciation itself toward "an ethics committed to the rupture of indifference" (Barad, 'On Touching' 216). In a time in which we are all too often global witnesses of, and participants in, a fundamental incapacity to live and negotiate a differential world, diffraction, in being both "the relational nature of difference" and "this physical phenomenon...[of]

diffraction patterns...to be the fundamental constituents that make up the world" (Barad, *Meeting* 72), provides an ethico-onto-epistemological precision in respect to difference(s), and allows the process of different/ciation to become the (non-)ground that transversally relates *and* differentiates 'what is' and 'what might be'. In thinking difference with diffraction, in diffracting difference once more, or in conceptualizing diffracted difference(s), we move one step further than the mere acknowledgment of differential 'naturecultures', a 'nature' that is in constant flux so that change—or difference in itself—is all there is. We move further into what (with Nietzsche) we might call the *active affirmation* of different/cial thought, which, if carried out in a rigorous manner—and that is with the recognition that its practicing is always/already implicated in the theorizing (and vice versa)—must also imply a different *enactment* (of difference(s)): an enactment that 'makes a difference'—and, as Grosz importantly adds, "hopefully for the benefit of a future time" (*Nick* 117).<sup>[10]</sup>

[9] The Deleuzian formula 'to become worthy of what happens to us and to will and release the event'—by evoking pure difference – is thickened by taking account of the feminist lesson of diffraction which "*is not merely about differences, and certainly not differences in any absolute sense, but about the entangled nature of differences that matter...Diffraction is a material practice for making a difference, for topologically reconfiguring connections*" (Barad, *Meeting* 381). To rethink the ethical beyond a prescriptive moral corset might be able to ultimately move further than the (already highly important but not completely sufficient) 'opening' towards alternative subjective capacities (such as e.g. affectivity based on the Spinozian-Deleuzian formula 'we do not yet know what our bodies can do'). To me, at least, it must also remain directed at envisioning *specific* futures. I see Barad's posthuman(ist) ethics of mattering as making a contribution in precisely this sense: to both do justice to the difficult and demanding quest to follow through the entangled nature(s) of nature(s) in ethico-onto-epistemological terms, and yet also not to stop short in producing a specific cut herself, instigating certain (and not other) worlding visions. This procedure cannot but create theoretical tensions, as it is paradoxical in both its affirmation of indeterminacy and specifically *cutting-together-apart*. Affirming this tension, however, I see this paradoxical (or political (!)) aspect as one of great significance for the theorization of an adequately quantized plane of immanence that thinks thought and life on but one level, and yet can no longer do so in *any* classical logical sense where things ultimately will 'add up'. Herein I also see the crux of Barad's favoring of Bohr's indeterminacy over Heisenberg's uncertainty: only the former demands the cut and thus encompasses (always/already) the horizon of (ethico-political) ac/countability respectively which cut will have been made.<sup>[11]</sup>

[10] If we finally go back to Deleuze one last time, we might now also be able to see him suggest something potentially not so different when, again with reference to Nietzsche, he describes the "complex unity" of thought and life: "[O]ne step for life, one step for thought. Modes of life inspire ways of thinking; modes of thinking create ways of life. Life *activates* thought, and thought in turn *affirms* life" ('Nietzsche' 66). Not to understand such affirmation as a pure—indifferent—vitalism but as ac/counting for the very concrete and specific indeterminacy that every situation harbors, this is what Barad's ethics of mattering promises as *an ethics that aims at disrupting indifference*. It is up to further engagements to explore the breadth of its quantized terrain, and to produce fruitful encounters with-in the philosophical

(quantum-)field.

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## End Notes

1. For Barad's notion of 'agential cut', see *Meeting the Universe Halfway* and "Quantum Entanglements".
2. For the complexity of the processes of 'different/ciation' in Deleuze's philosophy that relate directly also to the understanding of the entanglement of the virtual and the actual, see *Difference & Repetition* 208-221 and 'The Method of Dramatization' 94-116.
3. See also her section on 'Agential Realism: Understanding Phenomena Ontologically, or a Relational Bohrian Ontology', in *Meeting the Universe Halfway* (332-336).
4. The Spinozian aspect here is that Deleuze and Guattari call Spinoza 'the prince of philosophers' in respect to this quest of immanence because, as Deleuze in his seminars on Spinoza has once called it, "[t]here is only Spinoza who has managed to pull off an ontology" ('Spinoza 24/03/1981'). Both Spinoza's formula *deus sive natura* and his differentiation of *natura naturans* (substance) and *natura naturata* (attributes, modes) are re-thought in Deleuze's reading of Spinoza as no longer hierarchically ordered but 'flattened' into processes of different/ciation.
5. *Diesseits* is to be understood as the immanent version of transcendent(al) *jenseits* ('beyond'). It is the untranslatable 'other' of *jenseits*, encompassing both the dimensions of 'on this side of' and 'before'. In Rodolphe Gasché's recent book *Geophilosophy*, on Deleuze and Guattari's *What is Philosophy?*, he seems to gesture towards a similar 'before' in their thought of immanence, which he phrases as 'in advance of' (102).
6. See Elizabeth Grosz's discussion of becoming as always/already one of un-becoming in her 'Bergson, Deleuze, and the Becoming of Unbecoming'.
7. While this paper cannot delve into the intricate quantum physical arguments, Barad sees this question of *principal* indeterminacy as 'ontological' rather than 'epistemic' in character as the major differentiating aspect between Bohr's indeterminacy principle and Heisenberg's uncertainty principle (Barad, *Meeting* 261). Of course, the questions do not stop here, given that any differentiating between onto- and epistemo- is or must be transformed with-in an *onto-epistemological* horizon.
8. In a longer discussion that would allow for a more coherent reading of Deleuze's Spinozism with Barad's Bohrianism, the relation of Bohr's 'principal indeterminacy' and Spinoza's 'necessity' that

departs from mechanical causality because of the concept 'immanent cause', would be a most insightful endeavor.

9. That Deleuze's philosophy brings about and even works for a 'world without others' is a criticism that the cultural theorist Peter Hallward once issued.
10. This paper is also too short to develop in detail the specific Nietzscheanism suggested here. My reading of Nietzsche is—again—indebted to the Deleuzian legacy, especially to Grosz' discussion of Nietzsche's 'untimely' philosophy in her *The Nick of Time*. I read the reference to 'future time' here as compatible with a non-teleological understanding of time that affirms utter indeterminacy but that also does not stop envisioning other-world(ing)s.
11. See footnote 7.

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