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Critical Naturalism: A Quantum Mechanical Ethics

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Abstract

Rereading Derrida, both Donna Haraway and Karen Barad are in search for an ethics that is not based on critique but that offers an affirmative alternative to the dualist construction of naturalism today. Whereas Haraway practices this ethics mainly by reading contemporary biology into the humanities, Barad proposes us to take a closer look at natural sciences as a whole (with an emphasis on (quantum) physics). Her quantum mechanics *is* a critical naturalism *is* a posthuman feminism. Her deconstructive ethics immanently practices a critical naturalism that is a welcome and responsible alternative to the dualist theories of nature that dominate the discussion today.

Correlations have physical reality; that which they correlate does not.
(N. David Mermin 753, emphasis removed)

Deconstructive Critique

[1] In an interview with Karen Barad undertaken by Iris van der Tuin and myself, the mention of the word 'critique', as part of an extensive question that had little to do with this concept, caused her to make a strong statement *against* the status of critique in the Humanities today:

I am not interested in critique. In my opinion, critique is over-rated, over-emphasized, and over-utilized, to the detriment of feminism. As Bruno Latour signals in an article entitled 'Why has Critique Run out of Steam? From Matters of Fact to Matters of Concern' (2004), critique is a tool that keeps getting used out of habit perhaps, but it is no longer the tool needed for the kinds of situations we now face. Critique has been the tool of choice for so long, and our students find themselves so well trained in critique that they can spit out a critique with the push of a button. Critique is too easy, especially when a commitment to reading with care no longer seems to be a fundamental element of critique. So as I explain to my students, reading and writing are ethical practices, and critique misses the mark. Now, I understand that there is a different valence to the notion of critique in Europe than there is in the United States; nonetheless, I think this point is important. Critique is all too often not a deconstructive practice, that is, a practice of reading for the constitutive exclusions of those ideas we can not do without, but a destructive practice meant to dismiss, to turn aside, to put someone or something down— another scholar, another feminist, a discipline, an approach, et cetera. (Barad in Dolphijn & van der Tuin, 49)

[2] Barad continues the argument by elaborating on this distinction between a critique that is deconstructive and one that is destructive, noting that the latter strategy (of dismissing, turning aside and/or putting someone or something down) particularly bothers her. The former, the deconstructive critique, this "practice of reading for the constitutive exclusions of those ideas we can not do without", seems to come much closer to her scholarly practice.

[3] The difference between a deconstructive and a destructive critique is first of all ethical. It comes down to saying that, as a scholar, it is all too easy to place oneself 'outside' of a tradition, to restrain oneself from involvement in the matters at stake. In feminist theory, this engagement with the contemporary is of importance especially after Donna Haraway. Haraway's emphasis on situated knowledges (Haraway 'Situated Knowledges') is not aimed at identifying a woman's way of knowing (prominent in feminist thinking since 1968) but rather aims at mapping a *multiplicity* of women's ways of knowing, *id est*, an unlimited and undefined (not beginning with subjectivity or femininity, or by any *a priori* category) search for alternative positions. Instead of writing a critique on the state of the world from an "outside perspective" in order to identify the female, Haraway thus proposes that we write affirmatively, unconditionally and responsibly, drawing cartographies that confront us with urgent questions such as: "What is to be done? What is it to live and die in a time of exterminations and extinctions and genocides?" (Dolphijn, 112).

[4] It is the mapping of these ways of knowing *while* they realise and actualise themselves combined with a speculation upon their apparent futures that Haraway now considers the new aim for feminist theorisations. This offers us many new ways of doing feminist theory. It radically defines the notion of a feminist agency *not* enclosed in or captured by a type of subjectivity that is female 'in-itself'; rather, situated knowledges allow us to start doing theory both as an experiment and from experience, in the broadest sense, revealing the *activism-in-progress* that surrounds us. Its object of research is thus in every way both active and in change: "Situated knowledges require that the object of knowledge be pictured as an actor *and* agent, not as a screen, or a ground, or a resource" (Haraway 'Situated Knowledges', 592).

[5] Haraway writes the feminist life deconstructed as an activist yet affirmative politics: an activism *occupied with* feminism. Continuing/rewriting Derrida's critique of 'carno-phallogocentrism' as he referred to the human dominance over (animal) life on earth (see for instance Derrida 1990), Haraway's situated knowledges immediately take us to the ethical and political questions at the heart of today's crises in thought: "...if social, emotional, and cognitive complexity is the criterion. Derrida got it right. There is no rational or natural dividing line that will settle on the life-and-death relations between human and nonhuman animals; such lines are alibis if they are imagined to settle the matter 'technically'" (Haraway *When Species*, 297). The feminism she has to offer us, heavily inspired by currents in contemporary biology and the life sciences, does not necessarily provide critiques of these alibis but shows the transversal lines that run through life *and* death, human *and* animal, nature *and* culture, man *and* woman.

[6] The rich oeuvre of Donna Haraway shows that her deconstructive critique of Modernist (Kantian)

dualisms is not limited to traversing the oppositions that have established themselves as the conditions of truth today. In the introduction to *The Haraway Reader* she shows how her critique immediately offers us new forms of subjectivity:

There is no border where evolution ends and history begins, where genes stop and environment takes up, where culture rules and nature submits, or vice versa. Instead, there are turtles upon turtles of naturecultures all the way down. Every being that matters is in a congeries of its formative histories—all of them— even as any genome worth the salt to precipitate it is a convention of all the infectious events cobbled together into the provisional, permanently emerging things Westerners call individuals, but Melanesians, perhaps more presciently, call dividuals. (Haraway 'Introduction', 2)

[7] It is upon this non-dualist trail that Barad pursues her deconstructive critique, continuing the way in which Haraway and Derrida deconstruct carno-phallogocentrism. Taking serious the idea "that subjectivity is not the exclusive prerogative of anthropos" (Braidotti, 82) nor of any 'organic culture', Barad opens it up to the Great Outside (*le Grand Dehors*, as the French call it), introducing critical theory to nature as a whole, to matter undone of its most radical dualism: the nature-culture divide. Accepting the Harawayan neologism naturecultures as a most fitting alternative to this dualism, Barad pushes materialist thinking even further away from the anthropos, compared to Haraway, introducing us to a feminism that is not focusing on rethinking the life sciences in particular but on the natural sciences as a whole.

A Feminism in/of Physics

What is *to be* is at stake. How to become-with is at stake. And it matters; it matters who does what. Cynicism is *not* an acceptable position in the face of the crisis that we are in, but 'staying with the trouble' is. And it involves aesthetic, cognitive, literary, technical, sensual—all with depths of thinking, sensing, feeling, bearing, acting. (Haraway in Dolphijn 110)

[8] The quote above shows us Haraway's fundamental interest in being and becoming, which Barad fully affirms. Yet, although agreeing with Haraway, my argument would be that the non-dualist deconstructivism of Barad starts changing the Heideggerian interest in 'being-in-the-world, as it drove Derrida and to a lesser degree Haraway, into a 'being-of-the-world'. In other words, by not (implicitly) starting from an idea of subjectivity (and its attendant idea of objectivity) and by not (implicitly) situating life *in* the world (surrounded by the world, by Others), Barad makes critical theory an earthly, or perhaps even natural, enterprise. Critical theory, with Barad, thus does not wait for the human to begin: it has always already been *of* the earth.

[9] With Haraway we were searching for other forms of feminist subjectivity *in situ* (from *sinere* (lat.), 'putting down'). We may refer to this as a *relative* form of feminism, as it searches for 'a different view'. Searching for a way to get beyond an idea of subjectivity and its complex, anthropocentric history, Barad introduces us therefore to 'agential realism', as she conceptualizes it. Agential realism reverses Haraway's situated knowledge. It emphasizes ontology instead of epistemology (stressing 'the real' instead of 'knowledge') and by that offers us a new materialist feminism that is *absolute*. It is not so much

in search for different views (alternative perspectives, Other forms of knowledge) but rather focuses on sameness (every reality is and can only be agential). Less activist than Haraway's call to situate knowledge (which is also aimed at those theorists who refused to do so), Barad's agential realism, being much more analytical, proposes that we study the real *only* through what we may call 'its contractions'.

Staying with the Trouble Today: Writing Nature Responsibly

[10] In the interview, mentioned at the start of this essay, conducted by Iris van der Tuin and myself, Barad explicitly says that it is in this sense that her work practices a different feminism than Haraway's. When asked her how she saw her 'manifesto' end up in contemporary cultural theory, she replied:

Well, manifesto is a thing that my friend and colleague Donna Haraway can get into, but I cannot claim that term. [Laughs.] Of course, she means it ironically. Agential realism is not a manifesto, it does not take for granted that all is or will or can be made manifest. On the contrary, it is a call, a plea, a provocation, a cry, a passionate yearning for an appreciation of, attention to the tissue of ethicality that runs through the world. Ethics and justice are at the core of my concerns or rather, it runs through 'my' very being, all being. Again, for me, ethics is not a concern we add to the questions of matter, but rather is the very nature of what it means to matter. (Barad in Dolphijn & van der Tuin, 70)

[11] Especially after this claim it seems most urgent to ask ourselves how this different feminist politics, which is not a difference feminism, then comes with a wholly other emancipation. For a although one could argue whether the book is presented as such, Barad's *Meeting the Universe Halfway* in the end maps a naturalism that is about engagement, about situatedness and about responsibility, appealing in particular to the sciences for reconnecting ethically to 'the living present' as Derrida asks us to do. I agree here with the work of Joseph Rouse, who has noted Barad's 'feminist naturalism previously' ('Barad's Feminist Naturalism'), and to whose work Barad often refers. In a footnote commenting on his work, Barad explains the link between normativity and naturalism:

[M]y account of scientific practices is not naturalistic in the sense of giving science unquestioned authority to speak for the world, on the contrary; Rouse argues that a suitably revised conception of naturalism takes seriously what our best scientific theories tell us while simultaneously holding science accountable for its practices, for its own sake as it were, in order to safeguard its stated naturalist commitments. (Barad *Meeting*, 407 n.19)

[12] Practicing a feminist philosophy of science with a feminist ontology, Barad's quantum mechanical take on responsibility does not presuppose the human subject or the natural female body as the starting point for her *feminist* analysis (see also Rouse 'Barad's Feminist Naturalism', 155). Her 'agential realism' shows situatedness as a processual becoming in which things do not exist but come into existence with the material relations in which they are spun.

[13] Contrary to the metaphysical naturalism in which concepts such as objectivity quickly lead to the acceptance of the Laws of Nature (think also of genetic coding or 'gene fetishists', as Haraway calls them (Haraway 'Picturing Science', 189)), Barad's naturalism thus agrees with Haraway's 'naturecultures' which refuses to accept any nature outside of culture. Taking entanglement as her point of departure

(see also Barad's 'Getting Real' and 'material-discursive'), Barad's agential realism deconstructs these epistemic (necessarily dualist) networks that organise our thought from quantum physics (e.g. Schrödinger's cat, see Barad, *Meeting the Universe Halfway*, 284) to feminist theory (e.g. Butler's theory of performativity, see Barad *Meeting*, 208). She notes that naturalism in general has the tendency to keep the opposition between nature and culture intact (*Meeting*, 463 n.104). Mapping material intra-actions and the ideas to which they give rise, she often employs the term 'posthumanism' rather than naming this a critical naturalism. She does, however, admit that these terms signal something similar when she claims, "Posthumanism, in my account, can be understood as a thoroughgoing critical naturalism, an approach that understands humans as part of nature and practices of knowing as natural processes of engagement with and as part of the world" (*Meeting*, 331–2).

[14] Preferring to develop her ideas in posthumanist terms, instead of via a critical naturalism, surely follows the feminist potential of the former concept, which Rosi Braidotti, in her latest book (2013), develops analyses in greater detail. Thus Barad teams up with this large group of scholars that considers it of the greatest importance to show that dualist thinking is the greatest error of contemporary thought. Barad's response (her respons-ability) is a quantum mechanics that is at the same time *necessarily* a posthuman feminism. Starting from intra-action, the creative powers from which any type of epistemological individuality is being composed, she signals the birth of a particle, of a wave, a apparatus and a (female) body in whatever form, taking place; *only* as contractions in a surface.

What is a Critical Naturalist Ethics?

[15] Following Braidotti, the need to speculate upon a new theory of the subject which surpasses the Kantian Subject (with a capital S) is of course particularly pressing for feminist politics and the future of feminist theory. In Braidotti's work too, a new theory of the Subject cannot be considered separate from a critical naturalism. She rightfully insists on a posthumanism that does not so much follow Foucault's earliest writings (*Les Mots et Le Choses*, his *Introduction* to Kant's *Anthropology* in which he famously critiques Kant's Subject and the anthropocentrism this entailed) but, rather builds upon his last biopolitical analyses that we find in the *History of Sexuality* and, furthermore, in his classes at the College de France which have only recently published by Palgrave (see for instance Foucault *Security, Territory, Population*). Rereading Foucault's emphasis on the 'care of the self' (as developed in this later work), Braidotti summarizes the pros and the cons of a Foucauldian Posthumanism in our age:

The advantage of such a position is that it calls for a higher degree of lucidity about posthuman bio-organic existence, which means that the naturalist paradigm is definitely abandoned. The disadvantage of this position, however, is that it perverts the notion of responsibility towards individualism... (Braidotti *Posthumanism*, 116)

[16] The bio-ethical citizenship Braidotti seeks, and that marks the posthumanism we also find in Barad, instead opts for a type of subjectivity that aims at a sustainable, ecological or relational construction of subjectivity. It is a type of subjectivity that does not demand that the human mind be the 'checkpoint' necessary to verify everything there is, upon which post-Kantian thought, or 'correlationism' as Meillassoux (*Parables*) calls this, insisted. Barad's quantum physical-ethical subjectivity responds by

rewriting this naturalist paradigm, offering us all forms of (female) subjectivities that are by all means 'of the world'. Barad's posthumanism thus searches for subjectivities that we encountered before in the work of Gregory Bateson, particularly in his 1972 masterpiece *Ecology of Mind*:

When you narrow down your epistemology and act on the premise 'What interests me is me, or my organization, or my species,' you chop off consideration of other loops of the loop structure. You decide that you want to get rid of the by-products of human life and that Lake Erie will be a good place to put them. You forget that the eco-mental system called Lake Erie is part of your wider eco-mental system—and that if Lake Erie is driven insane, its insanity is incorporated in the larger system of your thought and experience. (Bateson, 491-2)

[17] The ethics practiced here by Bateson, starting from what Barad would call intra-action and showing the re-(con)figurations that realise themselves in the events we live, demonstrate, in very simple terms, how posthumanism can be a kind of critical naturalism. Yet by emphasising critical naturalism, Bateson has accurately foreseen what, in our time, has become a terribly urgent theoretical (and therefore ethical) debate. Living in the era of the Anthropocene, a term with which Nobel Prize winner Paul Crutzen ('Geology of Mankind') marks the times in which humanity is the geological force responsible for fundamental changes in the bio-sphere, the political necessity for a critical naturalism is perhaps the most pressing in contemporary cultural theory. Interestingly enough, Crutzen, himself a geologist, has shown us that human dominance is not limited to the way technology has alienated itself from natural processes, but also includes the fact that humanity, in many ways (including those both social and economic), increasingly opposed itself (Subject) to the world (Object) it intended to master.

[18] Thus Crutzen confirms the dualism that lies at the heart of the anthropocene and its long history in European thought. Dualism lies central to what Foucault would consider the condition for our truth: it marks our time and it has done so throughout modernity (see Foucault, *The Order* ch 2). At the start of the twentieth century, mathematician and philosopher Alfred North Whitehead, in his much acclaimed *Science and the Modern World*, shows us how this dualism was at work long before the Industrial Revolution via the writings of fellow mathematician and philosopher René Descartes. Analyzing the devastating effects of modern factories and their effect on the (English) landscape, Whitehead already warned us that what Crutzen would later call the Anthropocene follows from a state of mind rather than from individual ideas:

The general conceptions introduced by science into modern thought cannot be separated from the philosophical situation as expressed by Descartes. I mean the assumption of bodies and minds as independent substances, each existing in its own right apart from any necessary reference to each other. (Whitehead 194)

[19] Or to sum up the argument of this essay up until now: dualism, in every way, created the modern world as we know it.

[20] The critical naturalist ethics that Barad develops is, therefore, timely. Performing the ecological through both science and the humanities (in quantum physics and in feminism), she shows such dualisms as the condition for truth in our times. Yet by dismantling them, stressing the intra-active,

positing her critical naturalism along the way, she shows how epistemic networks place different cuts, *creating* the subject, the object, the medium (*Meeting* 352). Her quantum mechanics *is* a critical naturalism *is* a posthuman feminism. Or as she concludes this herself:

My posthumanist elaboration of Bohr's account understands the human not as a supplemental system around which the theory revolves but as a natural phenomenon that needs to be accounted for within the terms of this relational ontology. This conception honours Bohr's deeply naturalist insight that quantum physics requires us to take account of the fact that we are part of that nature which we seek to understand. (*Meeting* 352)

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