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Metaphysics or Metaphors for the Anthropocene? Scientific Naturalism and the Agency of Things

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Abstract: In this paper, I provide the outlines of an alternative metaphilosophical orientation for Continental philosophy, namely, a form of scientific naturalism that has proximate roots in the work of Bachelard and Althusser. I describe this orientation as an “alternative” insofar as it provides a framework for doing justice to some of the motivations behind the recent revival of metaphysics in Continental philosophy, in particular its ecological-ethical motivations. In the second section of the paper, I demonstrate how ecological-ethical issues motivate new metaphysicians like Bruno Latour, Jane Bennett, Timothy Morton, Ian Bogost, and Graham Harman to impute to objects *real features of agency*. I also try to show how their commitments lead to deep ambiguities in their metaphysical projects. In the final section, I outline a type of scientific naturalism in Continental philosophy that parallels the sort of naturalism championed by Quine, both conceptually and historically, and suggest that it might serve our ecological-ethical purposes better.

Keywords: speculative realism, vital materialism, environmental ethics, non-anthropocentrism, Bachelard, Althusser, Continental philosophy

1 Introduction

1.1 Overview

The landscape of Continental philosophy has changed radically in the early 21st century. The last 15 years have seen a resurgence of speculative philosophy, rationalisms, and realisms of all stripes. We see this in the “new materialism” of Diana Coole and others, the Deleuzian realism of Manuel Delanda, the “object-oriented philosophy” of Graham Harman, and many others. In the broadest terms, it has become safe to do *metaphysics* again. Why is this striking? For half a century, with a few exceptions, the criticisms of metaphysics leveled by Heideggerian phenomenology, deconstruction, and all manners of post-structuralism made metaphysics seem a totally discredited enterprise, grasping after things-in-themselves or, perhaps, for the structures of an experiencing subject in principle fully present to itself. The grip of these dogmas seems to be loosening.

One instantly noticeable feature of this change is a renewed dialogue between areas of philosophical thought that for some time have had little contact. For example, outside of the small domain of hardcore Husserlian phenomenologists, latter-day Continental philosophers tended on the whole not to engage deeply with the philosophy of logic or the foundations of mathematics; Alain Badiou’s revival of ontology, shaped deeply by his understanding of set theory, changed that right quickly. Similarly, in his arguments to the effect that materialist metaphysics are not sufficiently *realist*, Graham Harman engages at length with

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the work of the “analytic” philosophers of science Ladyman & Ross.¹ In brief, Continental philosophers are productively talking to, or, at the very least, about analytic philosophers. I take it that this is laudable, and in the final section I will also draw important connections between work in analytic and Continental philosophy, though with a very different aim.

While - let us say - a medium-scale return to metaphysics and shameless ontologizing is clearly taking place, it is difficult to say more than that at any level of generality. Speculations, once unleashed, diverge in a number of directions, and if there was once some unity to these different metaphysical views, it has disintegrated. This is not a bad thing - let a thousand flowers bloom - but it makes it difficult to pin down the central theses that partisans and detractors of this “return to metaphysics” might isolate to interrogate. Some have claimed it is a rejection of something called “correlationism,” roughly, the idea that being is intrinsically commensurate to thought, or that all that is is intelligible. But that would fail to get at the heart of the metaphysics of, say, a Coole or a Bennett, or even of a Latour. Again, this is probably a good thing, insofar as it deters sweeping claims and encourages more focused engagement with particular texts and arguments.

1.2 Claims

Nevertheless, I want to make some sweeping claims in this paper. My overarching claim is that the goals, or stakes, of a sizable cross-section of new Continental metaphysics could be better served by a form of *naturalism*. I will suggest that this naturalism has precedents in the traditions of Continental thought, and make this point clear by comparison to some points in the history of analytic philosophy. Finally, given that I take (at least some of) the aims of the new Continental metaphysics to be *ethical*, I will conclude with a rough outline of some of the implications of my view. Of course, in a short article, one can only provide a sketch of the perspective I hope the reader will be tempted to adopt, at least for purposes of exploration. Despite the sketchiness, I don’t intend to be polemical - as much of the dialogue over speculative realism has been - but rather to widen the space of possibilities for Continental philosophy moving forward. I take it that the position I delineate will be valuable because, with but a very few exceptions, the sort of naturalism that I want to put forth here remains largely unthematized in the tradition(s) of Continental philosophy.

1.3 The challenge

As mentioned, it is difficult to try to pin any one central claim on the various realisms, materialisms, and new metaphysics that have emerged in Continental philosophy. But, I think, that’s fine for what I am trying to do here. If one wants a detailed investigation of the specific views of any of the particular new metaphysicians, there are already plenty of places to look.² At any rate, in this paper I am not concerned with arguing *for* or *against* the new metaphysics as such. Rather, the aim is to articulate a competing position. In order to do so, I should say a little more about what a competitor might look like.

Now, I should note here, my competing position is not going to provide a competing picture of the way the world is. The new metaphysics in almost all of its forms, insofar as it aspires to be metaphysics and not poetry, aims to give us a true description of the world (or - for those metaphysics that are done with the notion of “world” - to describe reality, or beings, or modes of being). At risk of oversimplification, the metaphysician - in the relevant sense - feels no compunction to limit the description of the world to what a subject could possibly experience, or what could be revealed to us by science. Even new materialists whose works don’t focus on “withdrawn objects” but rather on the materiality of the bodies and processes that make us what we are - say, a Diana Coole or Elizabeth Grosz vs. a Graham Harman - do not focus on

¹ Cf. Harman, “I am also of the opinion that materialism must be destroyed”.

² Cf. Morin (ed.), *Continental Realism and its Discontents*; Gratton, *Speculative Realism: Problems and Prospects*; Bryant, Srnicek, and Harman (eds.), *The Speculative Turn*; Johnston, *Adventures in Transcendental Materialism*; and Peter Wolfendale’s quite literally painstaking critique in “The Noumenon’s New Clothes (I)”.

experience, but on what underlies it and makes it possible, beyond the (cognitive) subject. There is no shortage of competitors to any particular metaphysical view, insofar as they are no longer constrained by the evidence of experience or, beyond, in the refined inquiries of empirical science. The explosion of distinct metaphysical positions in Continental philosophy in the last decade (and across analytic philosophy over the last few decades) is predictable.

There are, of course, different sorts of competitors. Since (at least) Kant - the explicit enemy of many a metaphysician - a fundamental question concerns *how* metaphysical speculation can presume to describe the world *as it is*, truly, independently of our - human, or rational, or subjective - knowledge or experience? This is a difficult challenge to resolve insofar as it is hard to know upon whom the burden of proof rests. Though “anti-realism” of the sort that denies the possibility of any knowledge (and, in some versions, the very intelligibility) of what transcends the bounds of experience has been orthodoxy in Continental thought for a long time,³ it is not entirely clear that the metaphysician should be on her heels. For example, Quentin Meillassoux attempts to shift the burden to the anti-realist with his invocation of the *arche*-fossil and his argument from ancestrality; science, *ex hypothesi* the most successful cognitive enterprise in human history, clearly describes empirical features about the world that pre-date human existence and that will survive us.⁴ It seems that, barring an ostensibly unwarranted skepticism towards science, that the anti-realist should be the one required to justify her position. Indeed, it is from this position that Meillassoux will charge that the task for philosophical speculation is to articulate the conditions of possibility of absolute knowledge: “*it is science itself that enjoins us to discover the source of its own absoluteness.*” More on this in §3 below. For now, I just want to note that in his discussions of the “arche fossil” and the ancestrality argument that have drawn the most critical attention; they are, after all, how he attempts to get the project off the ground. It is probably fair to say that they have proven inconclusive. This is unsurprising, insofar as they seem to echo a history of debates running back to the original chasm between Continental and analytic philosophy.⁵

I don’t want to suggest that all such long-running debates are interminable, or that there are no facts of the matter about the limits (or lack thereof) of knowledge, or thought, of the objects of philosophical speculation. Rather, I simply want to point out that *prima facie* there don’t seem to be clearly decisive reasons available to a neutral observer as to whether or not a return to metaphysics is either possible or desirable or, if it is, which metaphysical view to adopt. So it makes sense then to look at some of the *motivations* that seem quite clearly to lie behind at least some of the positions that fall under the broad umbrella of the “new metaphysics”.

As stated above, there is no real central thesis that unites all the different forms of materialism, realism, etc., that together constitute the “new metaphysics” beyond the rejection of correlationism (or anti-realism or what have you). Similarly, the motivations of the new metaphysicians are likely not perfectly identical. One might simply think that a new metaphysical position is true. One might have a parricidal impulse to challenge the views of one’s post-structuralist *Doktorvater*. Or one might simply be interested in expanding the problem-space, articulating alternatives to an anti-realist orthodoxy that has become complacency. Nevertheless, there are a number of disparate positions that, when brought together, start to suggest a general kind of concern. In brief, there seems to be what could be called an “ecological-ethical” motivation that runs across a variety of new metaphysical positions.

The next section attempts to make this clear. After giving some background for this “ecological-ethical” motivation, I discuss how it is embodied in the work of Bruno Latour. I then discuss how, through Latour’s work, this ecological-ethical motivation is embodied in the “vital materialism” of Jane Bennett and the “object-oriented ontology” of Graham Harman, Ian Bogost, and Timothy Morton. I think a virtue of this approach is that it covers major figures across a number of different substantive positions, identifies

³ See, e.g. Braver, *A Thing of This World: A History of Continental Anti-realism*.

⁴ Meillassoux, *After Finitude*, 1-27. Meillassoux argues that philosophy - he rejects the term “metaphysics,” using it as a technical term for those pre-critical philosophies that postulate the existence of an absolutely necessary being, and adopts the term “speculation” or “speculative materialism” for his position (cf. 42-44), but it is fair to say that his work falls under the rubric of metaphysics as I have been discussing it here.

⁵ Cf. Vrahimis, “Was there a sun before men existed?”. On the analytic side, this debate can be traced through Nelson Goodman’s thoughts on “starmaking.”

commonalities, and, in turn, allows me to provide a more general alternative orientation for thought. Let us turn, then, to these motivations.

2 A metaphysics for the Anthropocene?

2.1 Background: Climate crisis and non-anthropocentrism

It occasionally seems like philosophy takes place, or aspires to take place, in a vacuum, and metaphysics is no exception. But it is worth noting that the turn to metaphysics coincides with increasing awareness of the scope of the global climate crisis, and on the numerous failures to make progress towards mitigating it. Industrialized nations are nowhere near keeping emissions in line with the goals established at in the Paris Agreements, and the planet seems headed for increases in global average temperature well over 3° Celsius, with potentially catastrophic results.⁶

Environmental philosophers have noted that what we face is a massive collective action problem, exacerbated by numerous factors. The issue is, in effect, a tragedy of the commons, wherein every individual is incentivized to pursue their own interests and “free ride” with respect to carbon emissions and lifestyle consumption.⁷ As with most collective action problems, the issue lies in incentivizing individuals to adopt patterns or strategies of action that - while perhaps not individually optimal - do not lead to the same undesirable collective consequences.

The search for some sort of *ethical* motivation for individuals is urgent not simply because of looming climate catastrophe. Since Hobbes, one candidate solution to this sort of problem has been the adoption of a strong sovereign force capable of keeping individuals in line by any means necessary. The specter of the Leviathan exists with respect to the problem of climate change as well.⁸ Finding more palatable alternatives seems doubly important. One strategy might appeal to the moral obligations of individuals (as, for example, in Locke’s alternative to Hobbes). But this has been fraught; not only is climate change a paradigmatic case of a problem of “many hands,” some have argued that it fundamentally challenges the very concepts - such as individual responsibility - that make up our contemporary moral frameworks.⁹ Other strategies involve appealing to new or underemphasized values: most famously something like “respect for nature.”¹⁰

It is with this idea that we might find, in nature, something to *respect*, that might temper humanity’s broadly instrumental attitude towards nature, that things become controversial. After all, it is a common post-Kantian stance to treat *respect* (and cognate concepts like *dignity*) as applicable only to other moral agents, and perhaps even only to rational agents. As Paul Taylor notes, even rendering the idea of “respect for nature” intelligible involves rejecting that common post-Kantian attitude, adopting a “biocentric” view of the world. There is no room here to rehearse Taylor’s arguments, or the way in which the spirit of his work has been taken up by others like Holmes Rolston or Dale Jamieson, but the basic outlines of the view involve recognizing the human being as part of a “larger community” of interdependent organisms with their own life-goals, in which human beings have no intrinsic superiority over other forms of life.¹¹ Without wishing to reduce a host of interestingly unique views in environmental ethics, *this* major theme, the *non-anthropocentric* thrust of *respect or something like it for nature itself* is at the heart of a number of positions in contemporary environmental philosophy: Arne Naess’ deep ecology, Aldo Leopold’s land ethic, its spiritual successor in J. Baird Callicott’s earth ethic, the Gaia theory formulated by Lynn Margulis and James Lovelock and adopted and transformed by Isabelle Stengers and Bruno Latour, and - at times - ecofeminism as described by Karen Warren and Val Plumwood.

⁶ Brown & Caldeira, “Greater future global warming inferred from Earth’s recent energy budget”.

⁷ Cf. Johnson, “Ethical Responsibility in a Tragedy of the Commons” and Hourdequin, “Climate, Collective Action, and Individual Ethical Obligations”.

⁸ Cf. Mann & Wainwright, *Climate Leviathan*.

⁹ Cf. Jamieson, “Climate Change, Responsibility, and Justice”.

¹⁰ Cf. Jamieson, “Climate Change,” and Taylor, *Respect for Nature*.

¹¹ Taylor, *Respect for Nature*, 99-100.

The non-anthropocentric approach to environmental ethics - which is to say, the non-anthropocentric approach to our considered judgments about our comportment towards the non-human world - is not the dominant one. While by no means marginal, it faces some important questions. Focusing, again, on Taylor's notion of respect for nature as proxy for a sort of non-anthropocentric ethical orientation, Rosalind Hursthouse points out problems for

the contentious notion of 'inherent worth' which, if introduced in a foundational premise, notoriously brings standard problems with it. Does it or does it not admit of degrees? Either answer lands one in difficulties, as the ethical literature based on the foundational premise that the other animals share inherent or intrinsic worth or value with human beings illustrates. It seems impossible to allow that it admits of degree without claiming that human beings (or at least all the human beings who are persons) have the highest degree and thereby what promised to be a radical reformation of our old understanding of ourselves in relation to the other animals loses most of its revisionary character. But to the modern city-dwelling philosopher—and her readers—the alternative seems hopelessly impractical. The Jains may command our admiration but we do not go into print saying that that is how we all should live.¹²

The passage suggests that the idea that we *are really actually the same*, in some sense of “same,” as other forms of life is so foreign to the “modern city-dwelling philosophy and her readers” as to refuse uptake. Indeed, if the aim is to *actually motivate*, that is, to provide an effective response to the collective action problem noted above, the response seems almost backward: the idea that we need to treat the environment differently in order to avoid the worst possible climate outcomes is something far more plausible to most than the idea that there is no important difference between humans and non-humans.

One possible response has been to try to co-opt an almost (or, occasionally, actual) theological or religious sense for “Nature.” Nature - paradigmatically construed as undomesticated or *wild* - stands opposed to us as an object of reverence.¹³ But the sublime sense of nature has been challenged of late. In 2000, Paul Crutzen and Eugene Stoermer coined the term “Anthropocene” to designate a new epoch in which human activities have become legible in both the geological and atmospheric records, indicating their extreme impact. This concept has been taken up with a vengeance in the theoretical humanities and social sciences, insofar as it supposed to trouble the conceptual dichotomy between “nature” and “culture.”¹⁴ If nature is, historically, understood in contrast with the paradigmatically human domain of *culture* - perhaps even, essentially, as *wild* or *undomesticated nature* - then the “Anthropocene” concept suggests that there is no such thing (and maybe there never was). And, so, non-human entities cannot be construed as comprising a “nature” opposed to humanity, whose otherness would ground the respect or awe or reverence required to alter our comportment towards it. Indeed, it seems like there is no longer a *nature* for us to respect. This is the philosophical problem space into which I want to suggest a sizeable amount of “new metaphysics” fits. The questions is: how can we conceptualize non-humans without nature in a way that presents them as plausible candidates towards which one might adopt the sorts of moral attitudes (like respect, wonder, etc.) that might be efficacious in solving the collective action problem presented by global climate change.

2.2 Political ontology at the end of nature

To begin, I want to look at the work of Bruno Latour, an idiosyncratic figure among the new metaphysicians if for no other reason than that he is an anthropologist of science by trade and one of the most influential figures in the humanities and social sciences in that role. But he is explicit about the environmental dimensions of his work: “It is now before Gaia that we are summoned to appear: Gaia... the truly global Globe that threatens us even as we threaten it. If I wanted to dramatize—perhaps overdramatize—the ambience of my investigative project, I would say that it seeks to register the... confrontation with Gaia [that]

¹² Hursthouse, “Environmental Virtue Ethics”, 164.

¹³ Cf. e.g. the work of Donald Crosby, or Foltz, *The Noetics of Nature*.

¹⁴ There are far too many recent articles and monographs discussing the anthropocene to cite in a footnote, so I leave the verification of this fascination as an exercise for the reader.

appears imminent... ‘Gaia’, the ‘Anthropocene’ era, the precise name hardly matters”¹⁵ In fact, the emphasis on the deconstruction of the nature-culture binary in the wake of the “Anthropocene” is in many ways a continuation of the project that was, if not initiated, at least popularized by Latour’s pluralist conception of natures in *We Have Never Been Modern* (1991). In that work, he undermines the division of the world into “nature” and “culture” or, rather, “society,” demonstrating that it is a “modernist” construction. Indeed, failing to recognize that construction has led to the failure to recognize the “proliferation of hybrids,” of entities irreducible to either nature or society, with whom we together compose a socionatural “collective.”

After the publication of *We Have Never Been Modern*, in a range of works between 1991 and 2005, Latour goes on to develop his account of these non-humans, these socionatural hybrids. As early as 1992, in “Where are the Missing Masses?” he is already appealing to our imbrications with artifacts to explain collective action in what would come to be called “Actor-Network Theory”:

We have been able to delegate to nonhumans not only force as we have known it for centuries but also values, duties, and ethics. It is because of this morality that we, humans, behave so ethically, no matter how weak and wicked we feel we are. The sum of morality does not only remain stable but increases enormously with the population of nonhumans. It is at this time, funnily enough, that moralists who focus on isolated socialized humans despair of us - us meaning of course humans and their retinue of nonhumans.¹⁶

Actor-Network Theory, in its resolute nonmodernity, aims to restore *agency* to all things or - at the very least - any thing in principle. If in “Where are the Missing Masses?” Latour describes how we *delegate* actions in complex sociotechnical and socionatural assemblages, in *We Have Never Been Modern*, he defines *humanity as nothing but this delegation*. The relevant sections deserve quoting at length:

Where are the Mouniers of machines, the Levinases of animals, the Ricoeurs of facts? Yet the human, as we now understand, cannot be grasped and saved unless that other part of itself, the share of things, is restored to it. So long as humanism is constructed through contrast with the object that has been abandoned to epistemology, neither the human nor the nonhuman can be understood. Where are we to situate the human? Where are we to situate the human? A historical succession of quasi-objects, quasi-subjects, it is impossible to define the human by an essence, as we have known for a long time. Its history and its anthropology are too diverse for it to be pinned down once and for all. But Sartre’s clever move, defining it as a free existence uprooting itself from a nature devoid of significance, is obviously not one we can make, since *we have invested all quasi-objects with action, will, meaning, and even speech...*The human is not a constitutional pole to be opposed to that of the nonhuman. The two expressions ‘humans’ and ‘nonhumans’ are belated results that no longer suffice to designate the other dimension. The scale of value consists not in shifting the definition of the human along the horizontal line that connects the Object pole to the Subject pole, but in sliding it along the vertical dimension that defines the nonmodern world. *Reveal its work of mediation, and it will take on human form. Conceal it again, and we shall have to talk about inhumanity, even if it is draping itself in the Bill of Rights*¹⁷

Latour will go on to describe the project of convening a “Parliament of Things” in which nonhumans and quasi-objects are members of our political associations with equal standing.¹⁸ If the sort non-anthropocentrism desired cannot be achieved by placing “nature” in the position of a commanding Other, then perhaps it can be achieved by granting nonhumans and quasi-objects citizenship in our collectives. At this point, the parallels with the environmental philosophers discussed at the end of §2.1 should be growing clearer. We move from an environmental ethic of respect for nature to an ecological, political ethic of solidarity with nonhumans. Compare Latour in 1999:

Are you ready, and at the price of what sacrifice, to live the good life together? That this highest of political and moral questions could have been raised, for so many centuries, by so many bright minds, for humans only without the nonhumans that make them up, will soon appear, I have no doubt, as extravagant as when the Founding Fathers denied slaves and women the vote.¹⁹

¹⁵ *An Inquiry into the Modes of Existence*, 9-10.

¹⁶ Latour, “Where are the Missing Masses?”, 232.

¹⁷ Latour, *We Have Never Been Modern*, 136-137. Emphasis mine.

¹⁸ For a full accounting of the roles in which Latour enlists nonhumans, cf. Edwin Sayes, “Actor-Network Theory and methodology”.

¹⁹ Latour, *Pandora’s Hope*, 297.

with Leopold a half-century prior in 1949:

When god-like Odysseus returned from the wars in Troy, he hanged all on one rope a dozen slave-girls of his household whom he suspected of misbehavior during his absence. This hanging involved no question of propriety. The girls were property. The disposal of property was then, as now, a matter of expediency, not of right and wrong. Concepts of right and wrong were not lacking from Odysseus' Greece: witness the fidelity of his wife through the long years before at last his black-prowed galleys clove the wine-dark seas for home. The ethical structure of that day covered wives, but had not yet been extended to human chattels. During the three thousand years which have since elapsed, ethical criteria have been extended to many fields of conduct, with corresponding shrinkages in those judged by expediency only...

There is as yet no ethic dealing with man's relation to land and to the animals and plants which grow upon it. Land, like Odysseus' slave-girls, is still property. The land relation is still strictly economic, entailing privileges but not obligations. The extension of ethics to this third element in human environment is, if I read the evidence correctly, an evolutionary possibility and an ecological necessity. It is the third step in a sequence. The first two have already been taken.

Individual thinkers since the days of Ezekiel and Isaiah have asserted that the despoliation of land is not only inexpedient but wrong. Society, however, has not yet affirmed their belief. I regard the present conservation movement as the embryo of such an affirmation.²⁰

In each case, the comparison is between our present failure to welcome nonhumans into our political associations and our past failures to abolish slavery, that is, treating some other class of human beings as somehow *less than*. Some morally arbitrary property (e.g. race, gender, circumstances of birth, and now, perhaps, species, or even animateness) is taken to be required for genuine membership in political community, and genuine moral progress is made when we recognize that is is not. Now that agency is no longer the exclusive property of any species, or even of organisms, these begin to seem just as arbitrary.

And yet. The worry remains: how can we possibly think this with respect to, as Leopold would suggest, *soil*? Or, as Latour might claim, a protein or a television station? By now we know that an incredulous stare isn't an objection on its own, but isn't the rational thing to do here to respond to Latour's *modus ponens* with a *modus tollens* of our own? I think that one source of resistance here comes from the stubborn suspicion that, while we can employ all sorts of narrative and rhetorical devices, we cannot overcome the sense that they amount only to *metaphor*, at best a description of *our* relation to things, but not responding to anything objective in (quasi-)objects themselves. One thinks of the powerful description of mountain climbing in Karen Warren's "The Power and Promise of Ecological Feminism":

I closed my eyes and began to feel the rock with my hands—the cracks and crannies, the raised lichen and mosses, the almost imperceptible nubs that might provide a resting place for my fingers and toes when I began to climb. At that moment I was bathed in serenity. I began to talk to the rock in an almost inaudible, child-like way, *as if the rock were my friend*. I felt an overwhelming sense of gratitude for what it offered me—a chance to know myself and the rock differently, to appreciate unforeseen miracles like the tiny flowers growing in the even tinier cracks in the rock's surface, and to come to know a sense of being in relationship with the natural environment. *It felt as if* the rock and I were silent conversational partners in a longstanding friendship. I realized then that I had come to care about this cliff which was so different from me, so immovable and invincible, independent and seemingly indifferent to my presence. I wanted to be with the rock as I climbed. Gone was the determination to conquer the rock, to forcefully impose my will on it; I wanted simply to work respectfully with the rock as I climbed.²¹

With all the *as if*'s, it is difficult to shake the feeling that there is some sort of self-deception at play. The slavery analogy, the argument goes, fails because while things like race, gender, and the circumstances of birth really *are* arbitrary with respect to one's ability to be an equal member of the polity, things like species and animateness aren't. At the very least, to be a *genuine* peer, rather than simply a *ward*, perhaps, something like the capacity for genuine agency and reciprocity, that is, something like *personhood* or perhaps *mindedness* is required. And on any sane (Western) modern(ist) conception of the world, things like rocks and plants just *aren't* minded, just *aren't* persons; any sense to the contrary is simply a human projection, or anthropomorphism.

²⁰ Leopold, *A Sand County Almanac and Sketches Here and There*, 201-203.

²¹ Warren, "The Power and Promise of Ecological Feminism", 396.

Latour rejects the appeal to projection, more or less unequivocally.²² While discussions of the nonhuman agency in *We Have Never Been Modern* and of assemblages or *agencements* in *Reassembling the Social* could have been taken as convenient fictions, explanatory tools or models, from 2005 it becomes increasingly clear that what is at issue is *metaphysics* or *ontology*; it is a matter of *what sorts of things there are and what they are like*. The modernist divide between nature and culture or nature and society places all agency, mind, and personhood on the side of society and culture.²³ A non-anthropocentric metaphysics must, then, argue that the relevant conditions for agency or subjectivity or personhood are met by non-humans and quasi-objects and thus that they *really are* persons or subjects. Put otherwise, “person” or “agent” or “subject” pick out genuine ontological categories, part of the inventory of what is, and it is at the very least open for debate as to what falls under those categories. The influential ecofeminist Val Plumwood’s words are emblematic here:

If your thesis is to be stated as: ‘This film/book presents non-humans as much more like humans than they really are’, be prepared to be asked: ‘In what respect?’ If your reply is: ‘Only humans can have minds, or the capacity to love’, be prepared to defend this indefensible claim, which is now out there in the open for all to see and engage in counter-arguments with.²⁴

If a non-anthropocentric conception of our political associations is to be effective in actually altering our behavior, it must be *literally true*. While he describes it as “political ecology,” he also defines political ecology as “experimental metaphysics.”²⁵ It is perhaps more accurate to say that what Latour is doing, and what new metaphysicians like Jane Bennett and the object-oriented ontologists are doing, is political ontology at the end of nature. This means, for him, that we must “accept the risk of metaphysics.”²⁶ In §2.3 I turn to Bennett’s and the object oriented ontologists’ approach to accepting this risk before discussing the naturalistic alternative in the third part of this essay.

2.3 Lively enchanted wonderful objects

It would be overstating things to claim that Latour’s work serves as a blueprint for the speculative realists, new materialists, and new metaphysicians that followed. For one, it would be understating the importance of other work, for example, the feminist realisms of Elizabeth Grosz and Karen Barad, and the complicated thought of Isabelle Stengers, one of the greatest influences on Latour. Nevertheless, it’s fair to note the Latourian problem space that some recent forms of the new metaphysics occupy, with an aim to making clear their ecological-ethical underpinnings.

Jane Bennett’s “vital materialism” both inhabits the Latourian problem space and embodies an ecological ethic most clearly. In *Vibrant Matter* she explicitly situates her project as one of “political ecology” in the sense that Latour gives the term, that is, as a sort of political ontology; where the latter might appeal to Whitehead or Gabriel Tarde, Bennett discusses the possibility of political association with nonhumans while invoking John Dewey and Jacques Rancière to think the constitution of a hybrid “public” organized around emerging problems and disrupting established relations of authority and dominance.²⁷

These associations include not only the human and the animal but also the non-animal and the non-vegetal. Bennett’s “vital materialism” is the view that *all* matter is animate, in some sense. This is a bold

²² This is, in effect, the entire thrust of Latour, “Why Has Critique Run out of Steam?” It is worth noting that in rejecting the appeal to projection and endorsing a form of realism, in both this essay and the later *Inquiry into Modes of Existence* he describes himself as needing to respond to climate change deniers.

²³ It is probably not true to say that the modern divide places all agency, mind, and personhood on the side of the *human* insofar as the modern quite likely takes it that there are minded animals, these also being social animals.

²⁴ Plumwood, “Nature in the Active Voice,” 127. So, for example, with respect to environmental philosophy, Freya Matthews argues for panpsychism and Matthew Hall for the personhood of plants. Cf. *For Love of Matter: A Contemporary Panpsychism* and *Plants as Persons: A Philosophical Botany*, respectively.

²⁵ Latour, *The Politics of Nature: How to Bring the Sciences into Democracy*, 235.

²⁶ *Ibid.*, 232.

²⁷ Bennett, *Vibrant Matter: A Political Ecology of Things*, 100-108.

claim and, wisely, rather than engage in arguments for its truth, Bennett's rhetorical strategy is to repeatedly *describe* the active role that matter can take in our lives, from a simple engagement with random street debris to an analysis of the complex causal relations at work in a major power blackout. I don't point this out as criticism - it is a remarkably effective strategy, and given my earlier misgivings about how one might go about attempting to argue a non-metaphysician into metaphysics, a reasonable one. Rather, I am simply pointing out how her aim is to articulate an ontology by narrative means - what she calls a "speculative onto-story":

One moral of the story is that we are also nonhuman and that things, too, are vital players in the world. The hope is that the story will enhance receptivity to the impersonal life that surrounds and infuses us, will generate a more subtle awareness of the complicated web of dissonant connections between bodies, and will enable wiser interventions into that ecology.²⁸

Here the point is, explicitly, not even to persuade but rather to help us develop a new way of experiencing, feeling, and responding to the *active living things* around us, allowing us to do these things more wisely. Bennett's aim is a sort of ethico-epistemic transformation; in becoming otherwise, by having our senses awakened, we can recognize the vitality of the matter around us.

The priority of the practical in all this is evident when one considers the trajectory of her intellectual itinerary. If in *Vibrant Matter* the "onto-story" is the beginning, an attempt to evoke in us a proper receptivity to *things*, as such, and in doing so to develop a posthumanist political ethic for the Anthropocene, in her previous book, *The Enchantment of Modern Life: Attachments, Crossings, Ethics*, Bennett's task is the reverse. In it, she articulates an ethic - an "ethic of enchantment." More than simply normative ethics, it is a "sensitivity" that provides the *motivational core* for following a moral code.²⁹ She goes on to define the content of this ethical sensitivity as a "hyperecological sense of interdependence," already noting it involves the "appreciation of nonhuman... sites of vitality" so as to reinforce principles of "treading lightly on the earth" and "minimizing pain and suffering."³⁰

At this point, she admits that it is difficult to articulate *why* one would adopt this sort of ethic, and that "reasons" - what might be called arguments - are not necessarily the most effective. She posits that there is some sort ethical affective drive that is linked to wonder and enchantment, and the "weak ontology" or "onto-picture" that she gives in this text might help cultivate, but she is not wed to its truth. In *The Enchantment of Modern Life* the ontological descriptions and narratives are in the service of an ethics, and in *Vibrant Matter* the ethical responsiveness cultivated is in service to that ontology. Latour's work remains ambiguous as to whether it is written in an epistemological, conceptual, or ontological register until the last 15 years or so; Bennett's work is ambiguous to the point of indifference. The metaphysics answers to the ethics, always, and the ethics is about our (ethical) responsiveness to enchanted, wonderful things.

This seems to be the case for several object-oriented ontologists as well. The main players - Harman, Levi Bryant (who I won't discuss here), Timothy Morton and Ian Bogost - all have slightly different views, and I won't be challenging their substantive positions directly. Nevertheless, according to Harman, and in common with Bennett, Latour is a shared icon.³¹

In terms of the "political ecology" that Latour pursues, this iconicity is most evident in Timothy Morton. Morton's first forays into object-oriented philosophy occur explicitly under the banner of "ecological thought." In this early work, the major contention of Morton's thought is very similar to Latour's; there is *no nature*. Nature as such is a mistaken conceptualization that separates human beings from *all the other beings*; there is no Being, for Morton, only beings. And, insofar as there is no (ontologically) important divide between beings and human beings, we wind up with "ecological awareness," the awareness that we are *connected to everything*.³² He follows this ecological thought, in his most recent works, to a similar

²⁸ Ibid., 3-4.

²⁹ Bennett, *The Enchantment of Modern Life: Attachments, Crossings, Ethics*, 156.

³⁰ Ibid., 157.

³¹ "Bruno Latour is the closest figure I can think of to the ideal object-oriented hero," Harman, *Prince of Networks: Bruno Latour and Metaphysics*, 156.

³² For a recent explanation, see Morton, *Being Ecological*, especially 27-56.

overall political picture: genuine solidarity with nonhuman agents. This seems like a metaphysical view; it is, after all, a reconceptualization of agency so as to include nonhumans as genuine persons.³³

And yet, like Bennett, there is deep ambiguity about what “metaphysics” or, what amounts to the same thing for our purposes, “realism” or “object-oriented ontology” amounts to for Morton. As he puts it, “When there is no world, there is no ontology... So at the very same time as our world is really melting, our idea of what ‘really’ and ‘real’ mean also melts. The global warming crisis is also an opportunity to point that out, to notice that reality is a naked emperor.”³⁴ On the one hand, Morton seems to want to ground an ecological ethic on a(n object oriented) ontology. On the other hand, he seems to deny that this ontology is to be taken literally, that it in no way aspires to inventory what is. Indeed, he even seems to deny that there is an ethic to be grounded, if by ethic we mean “something to be done” with regard to climate change. Rather, it seems like the claims of object-oriented ontology are supposed to function like a Zen koan, allowing for a sort of ethical self-transformation that yet leaves everything unchanged: “you don’t have to *be* ecological. Because you *are* ecological.”³⁵ What does object-oriented ontology *do*, then, for Morton? It cultivates affects that alter the character of our relations - if not our relations themselves - to nonhumans.³⁶ This is the task of theory - not metaphysics but the production of affect, foremost among them *wonder*:

[T]heory: a seemingly inert, passive set of texts and thoughts that nevertheless possesses a weird agency, that “looks at me” and undermines my place in the supposedly natural order of things. It is inert, yet this very inertia has a strange fascination about it. A strange wonderment that is passive, yet this passivity has its own disturbing activity, an activity that undermines the difference between doing and thinking: theory. “Wonder, a most philosophical affect”: *thaumazein mala philosophikon pathos* (Plato, *Theaetetus*)³⁷

Despite adopting the name of “ontology,” on this view object-oriented philosophy seems more like some sort of pragmatic rhetoric. At any rate, the ecological-ethical aims are clear. To be fair, Morton is not trained as a philosopher, and one might think that I am doing object oriented ontology a disservice insofar as I am characterizing it in terms set by its most flamboyant and hyperbolic representative. I will try to show that, if the explicit ecological-ethical dimension is muted in other object-oriented philosophers, nevertheless the imputation of features of agency, mindedness, or subjectivity to objects as well as the ambiguity with respect to being literal metaphysics or some sort of transformative rhetoric remains.

Arguably the distinguishing feature of object-oriented philosophy as a distinct family of metaphysical views is the emphasis on what is called the “withdrawal” of objects. Ian Bogost and Graham Harman stress that, on their view, we have *no direct access* to objects. Here lies the heart of the “realism” claimed by object-oriented ontology. Real objects always *withdraw* from us, leaving us only with *sensuous objects and relations*.

At first blush, this appears quite different than the work of Bennett and Latour. Their vibrant things and hybrid agents are not withdrawn in any important sense. Indeed, their posthuman narratives imply that these nonhumans are closer than we’ve realized. They are among us; perhaps they even *are* us. But the apparent difference is misleading; just as Bennett and Latour do, Harman and Bogost attribute to objects a property generally seen as the “mark of the mental,” that is, as essential and restricted to agents, subjects, and the minded: intentionality:

³³ Morton, *Humankind: Solidarity with Nonhuman Persons*, especially Ch. 5.

³⁴ Morton, *The Ecological Thought*, 117.

³⁵ Morton, *Being Ecological*, 155-157. Morton rejects environmentalist rhetoric that stresses urgent action. Cf. Morton, *The Ecological Thought*, 117.

³⁶ “Here are some affective states that we will encounter in pursuing the ecological thought: anger, compassion, confusion, curiosity, depression, disgust, doubt, grief, helplessness, honesty, humiliation, humility, openness, sadness, shame, and tenderness... In terms of how much they open us to the ecological thought, I’d rank compassion, curiosity, humility, openness, sadness, and tenderness the highest... On the inside, true compassion might feel like helplessness. Yet it would consist in refraining from violence and aggression. Out goes authority and harmony. In comes cooperation and choice.” (Morton, *The Ecological Thought*, 126).

³⁷ Morton, “Buddhaphobia,” 250.

... the concreteness of intentionality will turn out to belong to every possible layer of reality, not only to human awareness. To remain concrete does not mean to remain confined within the human sphere. [Object oriented ontology provides] a model of the world featuring countless strata of reality: objects wrapped in objects sealed in objects frozen in objects, extending above, below, and within the theater of human consciousness... expanding the concept of intentionality to the point where it covers the entirety of the things themselves, thereby freeing us from the growing staleness of the philosophy of human access.³⁸

And, as Harman presents it, the key feature of intentionality is that it *never connects to its objects*; just as thought is always *about*, but never *identical to*, its objects, all objects stand in relations that still somehow never quite reach each other.³⁹

Harman develops his views out of an interpretation of Husserl and Heidegger, but beyond noting that it involves a world of objects all imbued with intention, the details are immaterial for my purposes.⁴⁰ What is important is that, for both Harman and Bogost, this means that *aesthetic experience* is fundamental for philosophy.⁴¹ They specifically mean that *metaphorical experience* is fundamental for philosophy.

The basic idea is that, insofar as we can never experience *real* objects - they always hide behind their qualities, or their appearances - the closest we can come to them is through an experience of what they call a “sensuous” object, the content of an experience, with its sensuous qualities. Metaphorical or aesthetic experience replaces the sensuous object’s normal qualities with some other object’s sensuous qualities. Harman uses the example of “the cypress is a flame.” In this case, as he puts it, the sensuous object cannot “support” these non-literal qualities, and so it is replaced in our experience with a *real* object, the only one we can experience: ourselves. We *perform* the metaphor.⁴²

The upshot of this is - we should be unsurprised at this point - ethical. Both Harman and Bogost move more or less directly from the discussion of the “theatrical” metaphorical (non-)encounter between objects to a discussion of ethics. For Harman, the takeaway is that ethics is no longer about *duty*, or about the human being (or rational being) locked in a cage of obligation, but about becoming “inwardly invested” in these experiences, which are only ever of myself, and my qualities, but point beyond them somehow.⁴³

Just as metaphor results in a compound entity made up of me the reader and the qualities of the flame that is still an autonomous ethical experience unrelated to its socio-political meaning, ethics is a compound made up of me and those entities in which I take an interest.⁴⁴

For Bogost, this is what object oriented ontology is about. Just as with Morton, the aim is to expand what we take in an interest in, to expand our ethical experience, to *cultivate wonder*.

In Graham Harman’s terms, wonder is a sort of allure that real objects use to call at one another through enticement and absorption. As he puts it, “Allure merely alludes to the object without making its inner life directly present.” Wonder describes the particular attitude of allure that can exist between an object and the very concept of objects. If allure is “the separation between objects,” then wonder is the separation between objects and allure itself. Wonder is a way objects orient.⁴⁵

³⁸ Harman, *Guerrilla Metaphysics*, 23.

³⁹ For more on this, cf. Harman, *Guerrilla Metaphysics*, 26-31.

⁴⁰ Harman further explores what he calls “the quadruple object” - real objects, real qualities, sensuous objects, and sensuous qualities - in the eponymously titled book. For exhaustive criticisms of Harman’s approach to (or lack of) argumentation, see Wolfendale, “The Noumenon’s New Clothes (I),” 304-308.

⁴¹ Harman will sometimes claim things like “aesthetics is first philosophy,” but this shouldn’t be taken literally (besides the fact that, as we shall see, nothing he says should be taken literally). It conflates aesthetics with the experiences it seeks to elucidate. Cf. *Object Oriented Ontology*, 260.

⁴² Harman, *Object Oriented Ontology*, 82-85; cf. Bogost, *Alien Phenomenology*, 61-67.

⁴³ Harman, *Object Oriented Ontology*, 85.

⁴⁴ *Ibid.*, 96.

⁴⁵ Bogost, *Alien Phenomenology*, 124.

The aim of object oriented ontology, or alien phenomenology, is to reawaken our susceptibility to this orientation by objects, to foster and cultivate it: “Anything will do, so long as it reminds us of the awesome plenitude of the alien everyday.”⁴⁶

This emphasis on developing an ethical sensibility based around wonder that might increase our receptivity to the “allure” - or “liveliness” or “vitality” - of objects should be familiar by this point. And so should the sort of ambiguity that these object oriented ontologists ultimately leave us with.

At first, Bogost seems to address the obvious tension head on: how can a philosophical position that maintains the absolute withdrawal of real objects from any real relation to them call for an ethics that would somehow foster these relations? The answer, drawn from Harman, is supposed to rely on the theory of metaphor, of aesthetic experience. But it’s not at all clear how this is supposed to work. Harman is explicit, in fact, that metaphor *replaces a purported relationship with any other object* (whether “real” or “sensual,” in his terms) *with the self*. Harman and Bogost are absolutely explicit about this; we experience *ourselves* as bearers of unexpected sensual qualities that are supposed to allude or orient us towards other objects.

Indeed, as with Morton, it almost seems like the whole position dissolves into rhetoric aiming at some form of self-transformation. Harman is most clear in claiming that it is *not meant to be taken literally*. What he calls “literalism” is rejected early and forcefully.⁴⁷ Not everything about objects can be stated in literal propositions; indeed, for Harman, *nothing* about *real* objects can be.

For the object-oriented philosopher, philosophy is not about providing knowledge - including, ostensibly, knowledge of what there is, say, in the form of a metaphysical realism.

So while object oriented philosophy is described as a “theory,” it is ambiguous as to whether it is an account of the way the world actually is, in the sense of something that increases our knowledge of the world: “the search for knowledge is a literalist enterprise... There are numerous philosophers today who try to make philosophy a literalist discipline in much the same way as mathematics or natural science, a process that has been under way throughout the four centuries of modernism. Aesthetics is so important... precisely because neither theoretical nor practical work can ever give us the inwardness of things.”⁴⁸ Neither, of course, can aesthetic experience. In metaphor we substitute ourselves for real objects. When Harman describes our theatrical, metaphorical experience as *not*, fundamentally, being a cognitive or epistemic one, but rather a “productive” one, he is obscuring the most interesting point: the experience he thinks is fundamental is essentially *poetic*, a *poiesis* by which we reorient ourselves in the world.⁴⁹

In all of the figures we have looked at, there seems to be a sort of ethical aim - a ecologically motivated hope of opening ourselves outwards to the world, or to the real things that we encounter - that is linked to an ontological claim. The ethical aim is thought to *depend* on the way the world is - so, e.g., a political association with nonhumans depends on there *really being* nonhuman agents among the inventory of what is - and our ability to recognize that the world is thus-and-so depends on achieving the ethical aim. And so we need a true redescription of the world that will at the same time transform our ethical sensibility, which requires a transformative ethical sensibility that will reorient us to the world. The difficulty is manifest in the metaphor, theatricality, and poetry of the object oriented ontologists just as it is in the “weak” ontology of Jane Bennett. It requires making philosophy into something like art. But then it is not at all clear that it can be a metaphysics. Carnap said it best almost a century ago:

⁴⁶ Ibid., 134.

⁴⁷ Harman, *Object Oriented Ontology*, 35-40.

⁴⁸ Ibid., 75-78. Jon Cogburn has argued that this is the object-oriented philosopher’s response to a meta-theoretical issue that arises for global metaphysical theories more generally, namely, inclosure paradoxes that arise at how the explanatory posits of a metaphysical theory can be included in the object-domain being explained. Cogburn then claims that Harman’s “aesthetic” or “metaphorical” approach to philosophy, then, is a feature rather than a bug; metaphor - or, more broadly, allure - is a supposed to be a mode of explanation that allows object-oriented philosophy to avoid falling into self-contradiction. I’m not sure that this can be the case; it seems, rather, that Harman’s view does not face explanation-related paradoxes insofar as the sort of metaphorical production that he takes his position to engage in is simply not explanation. With respect to explanation - to paraphrase Ramsey - if you can’t say it, you can’t say it, and you can’t whistle it either. Nevertheless, the whole discussion is illuminating and worth considering. Cogburn, *Garcian Meditations: The Dialectics of Persistence in Form and Object*, 60-76.

⁴⁹ Harman emphasizes how aesthetic experience does not give us anything to understand but rather “produces” new objects (which - it seems - cannot be anything other than a new relation to oneself) in *Object Oriented Ontology*, 86-89; 105-107.

It is not only the reader, but the metaphysician himself who suffers from the illusion that the metaphysical statements say something, describe states of affairs. The metaphysician believes that he travels in territory in which truth and falsehood are at stake. In reality, however, he has not asserted anything, but only expressed something, like an artist... Instead, [the metaphysicians] have a strong inclination to work within the medium of the theoretical, to connect concepts and thoughts. Now, instead of activating, on the one hand, this inclination in the domain of science, and satisfying, on the other hand, the need for expression in art, the metaphysician confuses the two and produces a structure which achieves nothing for knowledge and something inadequate for the expression of attitude.⁵⁰

3 The naturalist alternative

3.1 Reality, knowledge, and the autonomy of science

In this section I will sketch an alternative, naturalistic orientation for Continental philosophy. “Naturalism” is an exceedingly broad term and, as with terms like “realism,” “anti-realism,” etc., means different things depending on the context in which, and domain to which, it is applied. In its most general sense, it might mean something like the rejection of *supernaturalism*: there are no spooky things. This in turn can be taken so broadly imply that, for example, *Aristotle* is a naturalist, or *Spinoza* is a naturalist, or *even Hegel* is a naturalist.⁵¹ I should be clear that, as I am using the term, these are all *extraordinarily anti-naturalist* positions. It’s certainly true that thinkers like Spinoza make “nature” central to their metaphysics, and that there are no “supernatural” entities; Hegel gives us a philosophy of nature from which *Geist* emerges, Spinoza gives us a nature that is God, and so on.

But simply appealing to nature in this way is not naturalistic. If one excises any spooky supernatural entities from one’s ontology by building spooky features into nature, one - ironically - severs the letter of naturalism from its spirit. What disqualifies them from the sort of naturalism I am interested in is the baking of substantive metaphysical structure into their conceptions of nature *independent of scientific inquiry*. Naturalism, as I construe it, makes scientific inquiry the model for knowledge production and the arbiter of ontology.⁵² While it may not be possible to posit any way the world might be that is absolutely free of metaphysics, in the sense of implying the existence of features, structures, or properties that go beyond possible observation, verification, or falsification, on the version of naturalism that interests me, metaphysics answers to epistemology and epistemology answers to science.

To see this a little more clearly, I provide a little fable about 20th century analytic philosophy of science.⁵³ For neo-Kantians in the early 20th century, (at least part of) the fundamental task of philosophy involved setting science on firm epistemological foundations.⁵⁴ In this case, the conditions for the possibility of science involved establishing “synthetic *a priori*” judgments constituting the deliverances of experience and experiment as the empirical content of theoretical propositions. Through synthetic *a priori* judgments, theory meets world. The upshot is that such judgments are not subject to revision in the face of recalcitrant experience, insofar as they are what allow the data gleaned by experience to be empirically meaningful at all. The neo-Kantian view is that synthetic *a priori* judgments are grounded in the nature of the human subject, as a rational being, and thus universal and necessary, persisting throughout the entire development of science. Further, the neo-Kantian story involves an anti-realist metaphysical stance; the

⁵⁰ Carnap, “The Elimination of Metaphysics through Logical Analysis of Language,” 989.

⁵¹ Cf. Pinkard, *Hegel’s Naturalism: Mind, Nature, and the Final Ends of Life*.

⁵² Ansell-Pearson and Protevi, “Naturalism in the Continental Tradition” gives a nice overview of a number of figures and issues, in terms of the now-standard distinction between “ontological naturalism” and “methodological naturalism.” As insightful as their essay is, on my view the figures they describe as “positive naturalists” like Bergson and Deleuze do not qualify.

⁵³ Fabulous in virtue of its oversimplification, this tale nevertheless represents, I think, a quite common general conception of the 20th century adventures of philosophy of science.

⁵⁴ This need not be a Cartesian foundation in the sense of securing the certitude of a belief or even a kind of belief; after the radical challenge of Humean skepticism/naturalism, the task becomes securing the *possibility* the science as a set of modally robust propositions.

potential objects of experience, and subsequently of knowledge, are delimited by the *a priori* structure of possible experience.

Unfortunately, the neo-Kantian view met a great challenge with the rise of Einstein's theory of relativity; Euclidean principles that were supposed to universally and necessarily order space were seen to be only a special case of a generally non-Euclidean spacetime. Enter the logical empiricists.⁵⁵ Like the neo-Kantians, logical empiricists like Schlick and Carnap thought philosophy ought to work in productive concert with the sciences. They were motivated to provide an epistemology adequate to the new physics, which had stripped the alleged synthetic *a priori* of its claim to universality and necessity; they accepted the need for constitutive principles to provide scientific theories with empirical content, but viewed these principles - while "*a priori*" in the sense of not being susceptible to any straightforward empirical falsification - no as longer synthetic but rather as merely analytic *conventions*.⁵⁶ Thus, the project of logical empiricism would be to articulate the *logic* of important scientific concepts and practices such as discovery, confirmation, explanation, etc. Philosophy's object was no longer the elucidation of the transcendental foundations of knowledge, but something much more formal. While thinning the substantive constraints on the possibility of knowledge, however, logical empiricists like Carnap were also undermining the idealist metaphysics of the neo-Kantians and metaphysics more generally; claims inaccessible to study by the methods of science were generally held to be meaningless, and - on Carnap's view, at least - questions about what there is are essentially relative.

This process of whittling away at the autonomy of philosophy was, the fable continues, completed by Quine. Quine was taken to have laid to rest the very distinction between analytic and synthetic propositions; *no* class of statements has the absolute right to revision in the face of experience. Along with the rejection of this distinction, Quine argues against the atomic reductionism of empiricists like Carnap, for whom - through the use of coordinating conventions - each "theoretical" sentence can be submitted to the tribunal of experience by being traced to "observation" or "protocol sentences." But no statement meets this tribunal on its own, but rather our entire "web of belief" as a corporate body does so.⁵⁷

If we follow Quine this far, we confront the stark possibility that "the Humean condition is the human condition." With no formal or principled way of grounding theoretical statements in observations, the aspirations of the logical empiricists to any autonomous, normative role for philosophy with respect to science seemed to die. The next Quinean move, then, is to endorse *naturalism*; philosophy neither founds nor judges, but is rather continuous with, the natural sciences. Instead of trying to "justify" science, the proper task of epistemology is simply to *explain*, given our best current science and using its means, how we come to have that knowledge.⁵⁸

On some narratives, after the full-frontal assault on metaphysics by the Vienna Circle, Quine's demolition of the dogmas of logical empiricism made metaphysics respectable again.⁵⁹ In works like "On What There Is" Quine gives a straightforward account of ontological commitment that is not beholden to any *a priori* constraints, much less the sorts of criteria for cognitive significance that the logical empiricists sought to

⁵⁵ The Vienna Circle was comprised of a "left" and "right" wing, the left wing being much more explicitly socially and politically engaged; I use the term here to denote predominantly the more formally-minded "right wing" of the logical empiricism, insofar as, for better or worse, they provide the commonly held image of logical empiricism.

⁵⁶ The conventional nature of, for example, geometric axioms in physical theory had been well explored by Henri Poincaré. As Don Howard puts it: "Such a view nicely forced the issue with the neo-Kantians. It conceded the need for a constitutive element in human intellection - the conventional coordinative definitions - while denying that any one manner of constitution is privileged, since any of several different conventional coordinating definitions are possible. More importantly, it entailed that once a few rather innocent coordinative definitions were established by convention, the rest of our science, including all the most interesting propositions about the geometry of physical space, would be forced on us by experience." Howard, "Einstein, Kant, and the Origins of Logical Empiricism," 47.

⁵⁷ It should be noted that similar moves had already taken place *within* the Vienna Circle, as Quine well knew. Neurath had already advocated a holistic naturalism in response to the "protocol sentence debate."

⁵⁸ Arguably the shift of the philosopher's task from a justificatory to an explanatory project makes the obvious circularity virtuous rather than vicious.

⁵⁹ For a strongly argued account of how analytic metaphysics has traced its rebirth to Quine, but is wrong to do so, see Price, "Metaphysics after Carnap: The Ghost that Walks?". See also Alspector-Kelly "On Quine on Carnap on Ontology."

uphold. The ground seems cleared for speculation. The question then becomes: what *does* motivate or constrain an ontology? Why choose some account of what is, rather than others? Why accept a Harmaniacal plenitude of kinds of objects rather than mereological nihilism?

Quine himself, obviously, was no speculative metaphysician. He was a naturalist through and through. Even in his seminal essay he claims the following:

Our acceptance of an ontology is, I think, similar in principle to our acceptance of a scientific theory, say a system of physics: we adopt, at least insofar as we are reasonable, the simplest conceptual scheme into which the disordered fragments of raw experience can be fitted and arranged. Our ontology is determined once we have fixed upon the over-all conceptual scheme which is to accommodate science in the broadest sense.⁶⁰

What is the moral of this fable? Simply this: that, insofar as the return of realist metaphysics in Continental philosophy after a period of anti-metaphysical or, at least, anti-realist animus mirrors the same process in analytic philosophy, we ought to remember that naturalism remains a distinct and unexplored alternative *even if we still wish to reject anti-realism, correlationism, or what-have-you*. So, for example, when Meillassoux, struck by the ability of geology or paleontology or cosmology to provide us knowledge of things far beyond the limits of finite human existence, claims that “it is science itself that enjoins us to discover the source of its absoluteness”⁶¹ in a metaphysics of absolute contingency we might shrug and simply say “Not necessarily.” The naturalist has no need to explain absoluteness, or even to posit it, but rather only by scientific means to show how the scientist arrives at the knowledge she has: the study of science, rather than metaphysics.

It’s fair to say that scientific naturalism of this sort has not been a dominant position in Continental philosophy, especially as it descends from Edmund Husserl and the phenomenological project. The rejection of psychologism, a form of naturalism, is at the heart of Husserl’s development of phenomenology as a way of saving the normativity of our experience. Nevertheless, there is a strong naturalistic orientation in Continental philosophy that does *not* derive, essentially, from phenomenology. Rather than the “philosophy of experience,” it derives from - as Foucault put when articulating his own intellectual milieu - the “philosophy of the concept,” and its seminal figure is Gaston Bachelard.⁶²

Like the neo-Kantians and logical empiricists, Bachelard was deeply struck by the radical newness of Relativity Theory (and, for that matter, quantum mechanics).⁶³ He rejected the positivism of previous generations of French philosophers of science, forcefully.⁶⁴ Like Quine, he rejected the autonomy of armchair philosophy in attempting to provide epistemic guidance for the sciences: “one must either say nothing about science or speak from the inside, that is, by practicing it.”⁶⁵ Epistemology becomes continuous with science, and Bachelard becomes a naturalist in the sense we have been discussing. That Bachelard’s preferred discipline for explaining the production of knowledge is *history*, and the history of science in particular, is completely consonant with this naturalism. For Quine, “naturalized epistemology” was to be a branch of psychology, tracking the production of knowledge from “impacts on sense-receptors” to our most complex science. But nothing about his arguments *compels* us to choose empirical psychology as the paradigmatic discipline to explain our knowledge: “In science itself [we] certainly want to include *the farthest flights of... history, and the social sciences*.”⁶⁶ Thus, for the

⁶⁰ Quine, “On What There Is,” 16-17.

⁶¹ Meillassoux, *After Finitude*, 28.

⁶² Cf. Foucault, “Life: Experience and Science”. This tradition also includes Jean Cavaillès, Georges Canguilhem, and Alexandre Koyré.

⁶³ This, of course, is the motivation behind his work *The New Scientific Spirit*, and the “non-Cartesian epistemology” with which it culminates.

⁶⁴ As Cristina Chimisso puts it, Bachelard “regarded... traditional epistemological doctrines, such as... positivism, as rooted in nineteenth century science,” Chimisso, *Writing the History of the Mind*, 142. In an editorial note, Anastasios Brenner and Jean Gayon claim he was “not content to reformulate positivism; he opposes positivism altogether” (Brenner and Gayon, *French Studies in the Philosophy of Science*, 7).

⁶⁵ Bachelard, quoted by Canguilhem, *Ideology and Rationality in the History of the Life Sciences*, 8.

⁶⁶ Quine, ‘Naturalism; Or, Living within One’s Means’, 252. Emphasis mine.

naturalist, all things being equal, history of science is a *prima facie* contender among the explainers of the production of knowledge. In both Quine and Bachelard, we end up with deference to real empirical science resulting in epistemological naturalism.

3.2 Disentangling the normative and the ontological: Naturalism in Althusser and Sellars

If we are motivated to overcome anti-realism, there is no logical *must* telling us that we are destined to become metaphysicians. But - to be fair - neither is there a logical must telling us to become naturalists. Either option remains open, it seems. In this penultimate section, I want to suggest that the implications of the Continental naturalism descending from Bachelard for both ethics and ontology provide a starting point for an elegant response to the motivations behind the political ecologies and object oriented ontologies discussed above, namely, the motivation to recognize a genuine *agency* at work in nonhumans, on a par with that recognized in human beings. Let us turn, first, to the implications.

Bachelard's naturalism consists in taking the epistemic authority of science for granted, and *explaining* the production of scientific knowledge historically, in terms of the production of new scientific objects through new experimental practices. In good Quinean fashion, Bachelard takes history of science to be continuous with science. Our contemporary best science provides us with exemplary concepts, theories, and practices, the emergence of which we can track historically, revealing important breaks with everyday experience and common knowledge: the history of science is a history of discontinuities. Indeed, for Bachelard, science is *constituted* by breaking with everyday experience and "knowledge," as these are "epistemological obstacles."⁶⁷ The objects of science are emphatically *not* the objects of everyday experience or common knowledge, but truly new productions. There is a dialectic between the reformation of concepts and the production of new objects in experiment:

A truly scientific phenomenology is therefore essentially a phenomeno-technology. Its purpose is to amplify what is revealed beyond appearance. It takes its instruction from construction. Wonderworking reason designs its own miracles. Science conjures up a world, by means not of magic immanent in reality but of rational impulse immanent in mind. *The first achievement of the scientific spirit was to create reason in the image of the world; modern science has moved on to the project of constructing a world in the image of reason. Scientific work makes rational entities real, in the full sense of the word.*⁶⁸

For Bachelard, this is meant quite literally. The sciences are the ultimate arbiters of what is real.

The obvious question arises, then, as to whether or not history actually manages to *be* science, by Bachelard's own lights.⁶⁹ Louis Althusser, who infamously wed Bachelard's historical epistemology to a structuralist reading of Marx, attempted to provide an answer. According to Althusser, we know that history is indeed continuous with science, because history is constituted *as* a science in its own epistemological break with everyday experience:

⁶⁷ "One of the epistemological obstacles related to the unity and power ascribed to nature is the... reality that the pre-scientific mind attributes to all that is natural. There is a valorisation here... *that is endlessly invoked in everyday life*, and that is ultimately a cause of confusion for experience and for scientific thought..." *The Formation of the Scientific Mind: A Contribution to a Psychoanalysis of Objective Knowledge*, 98. Emphasis mine. See also his remarks in *The Philosophy of No: A Philosophy of the New Scientific Mind*, 40-43.

⁶⁸ Bachelard, *The New Scientific Spirit*, 13. It is worth noting that he introduces the notion of "phenomeno-technology" here as a way of responding to a "metaphysical dilemma." For further discussion of phenomeno-techniques, cf. *The Formation of the Scientific Mind*, 70; and Chimisso, "From phenomenology to *phenomeno-technique*".

⁶⁹ In Bachelard's case, this question is doubly complex, insofar as his approach to history is avowedly "psychoanalytic," the "scientificity" of which was hotly debated in France. For discussion of all the very complicated ways in which Lacan tried to settle the issue, see his "Science and Truth," as well as Johnston, "Turning the Sciences Inside Out," and Milner, "The Doctrine of Science".

This opposition between science and ideology and the notion of an “epistemological break” that helps us to think its historical character refer to a thesis that, although always present in the background of these analyses, is never explicitly developed: the thesis that Marx’s discovery is a scientific discovery without historical precedent, in its nature and effects. Indeed, in conformity with the tradition constantly reiterated by the classics of Marxism, we may claim that Marx established a new science: the science of the history of ‘social formations’. To be more precise, I should say that Marx ‘opened up’ for scientific knowledge a new “continent”, that of history - just as Thales opened up the “continent” of mathematics for scientific knowledge, and Galileo opened up the “continent” of physical nature for scientific knowledge.⁷⁰

Marx invented the concept of a “mode of production,” constituting a new science with its own new objects, the science of History, historical materialism. Insofar as historical materialism is supposed to be the science of human behavior or action, and yet is supposed to *break* with our everyday experience and common knowledge, it must explain *both* our behavior, and how we come to experience that behavior the way do, in terms of objects that are *not* part of that experience. Those objects will be “modes of production,” according to Althusser, but we need not focus on *which* theoretical posits are supposed to be doing the explaining.⁷¹ Rather, I would like to focus on what this science is supposed to “break” from, namely, “ideology.”

Our everyday experience of and commonsense folk-theorizing about human behavior, and *especially* about human cognitive behavior, involves talk of distinctively normative mental entities: particularly, all sorts of propositional and volitional attitudes. In brief, we encounter and explain ourselves as thinking agents, possessed of desires, compelled by evidence, and bound by rules of inference. Althusser takes this way of encountering and explaining ourselves to be “ideology.” By his Bachelardian naturalist lights, a scientific explanation of our behaviour, including our scientific practice and knowledge, will *not* make use of such propositional and volitional attitudes in its explanations, as it would only *be* scientific in virtue of breaking from our everyday experience.⁷² Thus, ideology comes to encompass almost the entire domain of our everyday experience and common knowledge. Unsurprisingly, for Althusser “humanism” is the ideology *par excellence*, insofar as the term doesn’t seem to have much uncontested content besides these modes of explaining and encountering, of encountering oneself and other humans as *persons*, that is, the kinds of things that allegedly have such mental lives.⁷³

We can examine the importance of this distinction between science and ideology by comparing it to the views of another important naturalistic philosopher: Wilfrid Sellars. In his classic essay “Philosophy and the Scientific Image of Man,” Sellars distinguishes between two approaches to explaining the world, one which uses theoretical posits that are not at all part of our everyday experience and common knowledge to explain the given phenomena (the “scientific image”) and that which uses only “correlational induction,” but no theoretical posits (the “manifest image”).⁷⁴ Both the manifest image and scientific image provide accounts of what there is, and give explanations of why the things there are do the things they do. Strikingly, in the scientific image, what there is does not seem to include a good deal of the inventory of the manifest image, inventory with which we stock our everyday experience. Chairs and tables and “things” in general are replaced by properties of systems of particles. The manifest image, on the other hand, is that in which one encounters other human beings as agents; it is the “framework of persons.”⁷⁵

Obviously, for my purposes, the scientific image is the analogue of Althusser’s historical materialism, and the manifest image the analogue of ideology. The framework in which we encounter *persons* is the realm of ideology, each needing to be explained (or explained away) in manifestly non-personal terms. Sellars is sanguine about the prospects of accommodating mental entities into the scientific image, but he is clear that, to his mind, the scientific image is authoritative with respect to ontology.

⁷⁰ Althusser, *For Marx*, 13-14.

⁷¹ The relatively straightforward notion of “phenomeno-techniques” is likewise troubled by the shift from the physical to the human sciences, raising the question of what sort of apparatus is at play in producing the objects of this new science. But I leave that to the side for now.

⁷² The necessary elimination might only be “in principle,” as it might be overwhelmingly difficult to actually perform. What matter is that, as the Marxists say, “in the last instance,” our explanations do not rest on mental phenomena.

⁷³ Cf. Althusser, “Marxism and Humanism” in *For Marx*, 219-248. He notes, in particular, the devolution from “class humanism” to “personal humanism” in the opening pages.

⁷⁴ Sellars, “Philosophy and the Scientific Image of Man,” 7.

⁷⁵ Ibid., 11.

Interestingly, despite accepting, at least in principle, a personless ontology, neither Sellars nor Althusser call for the abandonment of the framework of persons. For Althusser, in stark contrast to most Marxists, that ideology is ineliminable. Even a socialist utopia would involve an ideology, insofar as ideology is just that way of encountering and explaining ourselves as intentional agents. Compare Sellars:

It is, first, the framework in terms of which man came to be aware of himself as man-in-the-world. It is the framework in terms of which, to use an existentialist turn of phrase, man first encountered himself—which is, of course, when he came to be man. For it is no merely incidental feature of man that he has a conception of himself as man-in-the-world, just as it is obvious, on reflection, that ‘if man had a radically different conception of himself he would be a radically different kind of man.’ ... To the extent that the manifest does not survive in the synoptic view, to that extent man himself would not survive.⁷⁶

with Althusser:

In no sense was I condemning ideology as a social reality: as Marx says, it is in ideology that men “become conscious” of their class conflict and “fight it out”; in its religious, ethical, legal and political forms, etc., ideology is an objective social reality; the ideological struggle is an organic part of the class struggle. On the other hand, I criticized the theoretical effects of ideology, which are always a threat or a hindrance to scientific knowledge.⁷⁷

The point, for Althusser, is to recognize that the recognition of persons or subjects is a *practice*; it is a practice in which we hold others and ourselves *responsible* for our actions and, in so doing, attribute to others and ourselves *beliefs* that both purport to explain those actions and are evaluable in terms of both theoretical and practical rationality. For Althusser, this practice reproduces the relations of production that in turn both subtend and are determined by the modes of production.⁷⁸ It does this *by actually producing persons*, in the sense of inducting individuals into these practices. But the interesting point is that, for the historical materialist, ideology is no longer a matter of “false consciousness” to be corrected, because the sorts of things to be evaluated in normative terms of truth or falsity - namely, beliefs and other propositional attitudes - are not part of the ontological stock of historical materialism. Truth and falsity are normative attributions *within* the practices of holding-accountable, being-answerable-to, and so on.⁷⁹ The upshot of this, then, is that ideology is not a matter of representation or, *a fortiori*, of description at all. Contra most Marxists, the issue is not the epistemic task of *correcting* ideology, our practices of being accountable, being-answerable-to, etc. but rather, the *political* task of changing the way we encounter each other.

As Sellars puts it:

the conceptual framework of persons is not something that needs to be reconciled with the scientific image, but rather something to be joined to it. Thus, to complete the scientific image we need to enrich it *not with more ways of saying what is the case*, but with the language of community and individual intentions.⁸⁰

To describe an individual as a thinking agent, explaining her behaviour in terms of her beliefs and desires and intentions is not merely to be playing the game of describing, that is, taking up a theoretical or objective attitude, but also to take up a practical or ethical one: a person is someone who calls for my consideration. What the scientific image needs is not to accommodate ontologically basic and irreducible persons into the catalogue of what there is, but to incorporate the rich normative relations that link those things that we take to be persons whatever they ultimately turn out to be.

⁷⁶ Ibid., 6.

⁷⁷ Althusser, *For Marx*, 11-12. See also the entries on “Humanism” and “Ideology” in the “Glossary,” (provided by Brewster but approved by Althusser) on pp. 251-252.

⁷⁸ See Althusser, *On the Reproduction of Capitalism*, Appendix 2.

⁷⁹ That our being answerable to the world in matters of description is a commitment internal to our practices is something Brandom takes to be one of Rorty’s greatest insights. See “An Arc of Thought: From Rorty’s Eliminative Materialism to his Pragmatism”.

⁸⁰ “Philosophy and the Scientific Image of Man,” 40.

Even if persons do not populate our ontologies, they will still populate our lives, perhaps in more ways than ever. This way of thinking should move us toward disabusing ourselves of thinking it crucial that the normative significance of the manifest image have ontological import. The contemporary revival of realism in Continental philosophy is, in at least one its guises, motivated to incorporate the scientific image *into the manifest*, so to speak, attributing agency to nonhuman entities that feature in the explanatory frameworks of the sciences. This expresses the desire to register the stark reality of *things*, things that push back at the tendency of transcendental philosophy to claim that, whatever things may be, they have their order and intelligibility in virtue of our all-too-human concepts. I have suggested that this drive to acknowledge the irreducibility of *things*, as it has manifested in the early 21st century return to speculative metaphysics, is in part a response to our entering the Anthropocene: an epoch in which our traditional ways of distinguishing the natural from the cultural - the attribution of agency being a paradigm case - are no longer tenable. Generations of philosophers are realizing that we are limited not only by our own finitude, but by the vibrant force of things with their own interests, a world of *human and nonhuman* things that make claims on us. The idea is that our anthropocentric conceptions of (moral) agency fail to properly motivate us to respect either the fragility of our ecologies or their claims to preservation, and the posthumanist ontology of speculative realism will do better.

But we've already seen, for example, Bennett's own uneasiness with the idea in the notion of a "weak ontology," and the ambiguities present in the work of the object oriented ontologists. But the idea that we attribute agency or, better, personhood as a *normative* status far beyond the limits of humanity resonates with Sellars' and Althusser's thought, and suggests a different, naturalist orientation, that eschews as much as possible metaphysical or ontological speculation. Sellars claims the manifest image is a refinement of an "original image," in which *everything* was considered a person.⁸¹ But perhaps this is not so much an original "image," a *theory* of the world, as an original *stance*, in which the attitudes of explanation and evaluation are not yet distinguished, a stance towards the world through which its inhabitants engage us as *persons*. This is a stance that we have had occasion to limit over time, as we have become less and less prepared to encounter elements of our world as persons, relegating them to the domain of objects. While we cannot return to such an ambiguous stance, implicit in both Sellars and Althusser is the idea that we can stop treating the manifest image as if a *theoretical* alternative to the scientific image, rather than a different mode of comportment altogether, one which can accommodate nonhumans just as well as it can accommodate humans.

4 Concluding remarks toward a genealogy of truth

I've suggested that the ontological equality at issue here can be achieved without including nonhuman agents in our ontologies by excising the realm of the normative - including persons - from them. This might be appealing to those who feel the force of naturalism, in the sense that they recognize the authority of the sciences to determine what there is. Call it "the naturalistic intuition." The naturalistic intuition can be accommodated while at the same time recognizing the moral equality of humans and nonhumans.

A worry might arise here that accommodating the naturalistic intuition allows for the recognition of nonhuman agents only because it reduces the status of *human* agents to the role of fictions. Rather than elevating nonhumans to the status of humans, it levels them both to nothing. Part of the *ontologizing* of the ethical impetus of new materialism lies, I take it, in the demand that *it be really true* that nonhumans are, or can be, genuine ethical agents or members of our moral community, with the same status as human beings.

Earlier, I cited Carnap, who thought that, insofar as it strayed from science, metaphysics was bad art. Does the same criticism apply to the naturalist position that I am attempting to outline here? I think not. For Carnap, metaphysical speculation failed as a cognitive enterprise because cognitive meaningfulness was restricted to claims that can be either true or false, and the claims that are candidates for truth and falsity were all in principle subject to empirical verification; in this way, truth or falsity is restricted to claims about

⁸¹ Sellars, "Philosophy and the Scientific Image of Man," 21.

what is. But, while I agree that statements that go beyond the bounds of natural science often fall into the realm of *expression* rather than the realm of *description*, this no longer means that they are any less worthy of being considered true or false. We have, now, at our disposal a host of theories of truth. In general, deflationary accounts of truth allow us to think about the truth or falsity of statements without needing to assume that these statements are in the business of providing us with a picture of what is. Moreover, they encourage us to look not at what truth *is* but at what the truth *does*, and what we do with it. This is already part of at least one major naturalistic project.⁸²

So, I think, the task of the naturalist Continental philosopher in the Anthropocene is a genealogical one. Rather than attempting to ground our normative practices, both epistemic and ethical, on ontological features of the world, we need to explain how these stances, and their corresponding practices, arise and what we do with them. How, for example, did the theoretical stance towards things arise, and differentiate itself from the involved, participant attitude with which it was originally imbricated? How have we separated, and how have we linked together, our descriptive and evaluative concepts? Must agency and personhood find a place in the catalogue of basic entities, or can they survive as statuses in our practices of giving and asking for reasons, and of demanding and sharing concerns? If the latter, might we find ways to register the claims of things upon us that does not reduce them to their contributions to human well-being, that is, that allows them a voice of their own? The wager of this approach is that the spaces of reason that we inhabit, the statuses granted and standards by which we evaluate ourselves and others, are not determined by some pre-existent, external normative order but, rather, emerge out of our natural history. Thus they are, at least to some extent, open to contestation and transformation. This sort of naturalism, in ceding authority over what there is, leaves space for the autonomy of ethical life, room for experimenting with who we might be, how we might live, and to whom we must answer.

References

- Althusser, Louis. *For Marx*, translated by Ben Brewster. New York: Verso 2005.
- Althusser, Louis. *On the Reproduction of Capitalism*. Translated and edited by G.M. Goshgarian. New York: Verso 2014.
- Ansell-Pearson, Keith and John Protevi, "Naturalism in the Continental Tradition". In *The Blackwell Companion to Naturalism*, edited by Kelly James Clark. Malden MA: Blackwell 2016. 34-48.
- Bachelard, Gaston. *The Formation of the Scientific Mind: A Contribution to a Psychoanalysis of Objective Knowledge*, translated by Mary McAllester Jones. Manchester: Clinamen 2002.
- Bachelard, Gaston. *The New Scientific Spirit*, translated by Arthur Goldhammer. Boston: Beacon 1984.
- Bachelard, Gaston. *The Philosophy of No: A Philosophy of the New Scientific Mind*, translated by G.C. Waterson. New York: The Orion Press 1968.
- Bennett, Jane. *The Enchantment of Modern Life: Attachments, Crossings, Ethics*. Princeton NJ: Princeton University Press 2001.
- Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Durham NC: Duke University Press 2010.
- Bogost, Ian. *Alien Phenomenology, or What It's Like to Be a Thing*. Minneapolis MN: University of Minnesota Press 2012.
- Brandom, Robert. "An Arc of Thought: From Rorty's Eliminative Materialism to his Pragmatism". In *Perspectives on Pragmatism: Classical, Recent, and Contemporary*. Cambridge MA: Harvard University Press 2011.
- Braver, Lee. *A Thing of This World: A History of Continental Anti-realism*. Evanston IL: Northwestern University Press 2007.
- Brenner, Anastasios and Jean Gayon. "Introduction". In *French Studies in the Philosophy of Science: Contemporary Research in France*, edited by Anastasios Brenner and Jean Gayon. New York: Springer 2009.
- Brown, Patrick T. and Ken Caldeira, "Greater future global warming inferred from Earth's recent energy budget," *Nature*, vol. 552, 2017. 45-50.
- Bryant, Levi, Nick Srnicek, and Graham Harman (eds.). *The Speculative Turn: Continental Materialism and Realism*. Melbourne: re:press 2011
- Canguilhem, Georges. *Ideology and Rationality in the History of the Life Sciences*. Translated by Arthur Goldhammer. Cambridge MA: The MIT Press 1988
- Carnap, Rudolf. "The Elimination of Metaphysics through Logical Analysis of Language." In *Critical Theory since Plato*, edited by Hazard Adams and Leroy Searle. Boston: Thomson 2005. 980-989.
- Chimisso, Cristina. "From phenomenology to *phenomeno-technique*: the role of early twentieth century physics in Gaston Bachelard's philosophy," *Studies in History and Philosophy of Science*, vol. 39, 2008. 384-392.

⁸² See Price, "Truth as Convenient Friction".

- Chimisso, Cristina. *Writing the History of the Mind: Philosophy and Science in France 1900-1960s*. Burlington VT: Ashgate 2008.
- Cogburn, Jon. *Garcia Mediations: The Dialectics of Persistence in Form and Object*. Edinburgh: Edinburgh University Press 2017.
- Foltz, Bruce. *The Noetics of Nature: Environmental Philosophy and the Holy Beauty of the Visible*. New York: Fordham University Press 2014.
- Foucault, Michel. "Life: Experience and Science". In *Aesthetics, Method, and Epistemology (The Essential Works of Michel Foucault 1954-1984 Volume 2)*, edited by James D. Faubion. New York: The New Press 1998. 546-478.
- Gratton, Peter. *Speculative Realism: Problems and Prospects*. New York: Bloomsbury 2014.
- Hall, Matthew. *Plants as Persons: A Philosophical Botany*. Albany NY: State University of New York Press 2011.
- Harman, Graham. *Guerrilla Metaphysics: Phenomenology and the Carpentry of Things*. Chicago: Open Court 2005.
- Harman, Graham. "I am also of the opinion that materialism must be destroyed". *Environment and Planning D: Society and Space*, vol. 28, 2010. 772-790.
- Harman, Graham. *Object Oriented Ontology: A New Theory of Everything*. London: Penguin 2018.
- Harman, Graham. *Prince of Networks: Bruno Latour and Metaphysics*. Melbourne: re:press 2009.
- Harman, Graham. *The Quadruple Object*. New York: Zero Books 2011.
- Hourdequin, Marion. "Climate, Collective Action, and Individual Ethical Obligations". *Environmental Values*, vol. 19, no. 4, 2010. 443-464.
- Howard, Don. "Einstein, Kant, and the Origins of Logical Empiricism". In *Language, Logic, and the Structure of Scientific Theories*, edited by Wesley Salmon and Gereon Walters. Pittsburgh: University of Pittsburgh 1994. 45-105.
- Hursthouse, Rosalind. "Environmental Virtue Ethics". In *Working Virtues: Virtue Ethics and Contemporary Moral Problems*, edited by Rebecca L. Walker and Philip J. Ivanhoe, 155-172. New York: Oxford University Press 2007.
- Jamieson, Dale. "Climate Change, Responsibility, and Justice". *Science and Engineering Ethics*, vol. 16, 2010. 431-445.
- Johnson, Baylor. "Ethical Responsibility in a Tragedy of the Commons". *Environmental Values*, vol. 12, no. 3, 2003. 271-287.
- Johnston, Adrian. *Adventures in Transcendental Materialism: Dialogues with Contemporary Thinkers*. Edinburgh: Edinburgh University Press 2014.
- Johnston, Adrian. "Turning the Sciences Inside Out: Revisiting Lacan's 'Science and Truth'". In *Concept and Form Volume 2: Interviews and essays on Cahiers pour l'analyse*, edited by Peter Hallward and Knox Peden. New York: Verso 2012. 105-122.
- Lacan, Jacques. "Science and Truth". In *Écrits*, translated by Bruce Fink. New York: W.W. Norton 2006. 726-745.
- Latour, Bruno. *An Inquiry into the Modes of Existence*, translated by Catherine Porter. Cambridge MA: Harvard University Press 2013.
- Latour, Bruno. *Pandora's Hope: Essays on the Reality of Science Studies*. Cambridge MA: Harvard University Press 1999.
- Latour, Bruno. *The Politics of Nature: How to Bring the Sciences into Democracy*. Cambridge MA: Harvard University Press 2004.
- Latour, Bruno. *We Have Never Been Modern*, translated by Catherine Porter. Cambridge MA: Harvard University Press 1993.
- Latour, Bruno. "Where are the Missing Masses? On the sociology of a few mundane artefacts". In *Shaping Technology/Building Society: Studies in Sociotechnical Change*, edited by Wiebe Bijker and John Law. Cambridge MA: The MIT Press 1992. 225-258.
- Latour, Bruno. "Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern," *Critical Inquiry*, vol. 30, 2004. 225-248.
- Leopold, Aldo. *A Sand County Almanac and Sketches Here and There*. New York: Oxford University Press 1949.
- Mann, Geoff and Joel Wainwright. *Climate Leviathan: A Political Theory of Our Planetary Future*. New York: Verso 2018.
- Mathews, Freya. *For Love of Matter: A Contemporary Panpsychism*. Albany NY: State University of New York Press 2003.
- Meillassoux, Quentin. *After Finitude: An Essay on the Necessity of Contingency*, translated by Ray Brassier. New York: Bloomsbury 2008.
- Milner, Jacques-Milner. "The Doctrine of Science". *Umbra: A Journal of the Unconscious*, vol. 1, 2000. 33-64.
- Morin, Marie-Eve (ed.). *Continental Realism and its Discontents*. Edinburgh: Edinburgh University Press 2017.
- Morton, Timothy. *Being Ecological*. London: Penguin 2018.
- Morton, Timothy. "Buddhaphobia: Nothingness and the Fear of Things." In *Nothing: Three Inquiries in Buddhism*, edited by Marcus Boon, Eric Cاذdyn, and Timothy Morton, Chicago: University of Chicago Press 2015. 185-265.
- Morton, Timothy. *The Ecological Thought*. Cambridge MA: Harvard University Press 2010.
- Morton, Timothy. *Humankind: Solidarity with Nonhuman Persons*. New York: Verso 2017.
- Terry Pinkard. *Hegel's Naturalism: Mind, Nature, and the Final Ends of Life*. New York: Oxford University Press 2012.
- Price, Huw. "Metaphysics after Carnap: The Ghost that Walks?" In *Naturalism without Mirrors*. New York: Oxford University Press 2011. 280-303.
- Price, Huw. "Truth as Convenient Friction". In *Naturalism without Mirrors*. New York: Oxford University Press. 163-183.
- Plumwood, Val. "Nature in the Active Voice," *Australian Humanities Review*, issue 46, 2009. 113-129.
- Quine, W.V.O. "On What There Is," 16-17 in *From a Logical Point of View: 9 Logico-Philosophical Essays*. New York: Harper & Row 1963. 1-19.

- Quine, W.V.O. "Naturalism; Or, Living within One's Means". *Dialectica*, vol. 49, no. 2-4, 1995. 251-61.
- Sayes, Edwin. "Actor-Network Theory and methodology: just what does it mean to say that nonhumans have agency?" *Social Studies of Science* vol. 44, no. 1, 2013. 134-149.
- Sellars, Wilfrid. "Philosophy and the Scientific Image of Man." In *Science, Perception, and Reality*. Ridgeview: Humanities Press 1963.
- Taylor, Paul. *Respect for Nature: A Theory of Environmental Ethics, 25th Anniversary Edition*. Princeton NJ: Princeton University Press 2011.
- Vrahimis, Andreas. "Was there a sun before men existed? A.J. Ayer and French philosophy in the fifties". *Journal for the History of Analytic Philosophy* vol. , no. 9: 2013.
- Warren, Karen J. "The Power and Promise of Ecological Feminism". In *Environmental Ethics: Readings in Theory and Practice* 7th edition, edited by Pojman, Pojman, and McShane. Boston: Cengage 2017. 390-405.
- Wolfendale, Peter. "The Noumenon's New Clothes (I)," *Speculations*, vol. 3, 2012. 290-366.