



## Object-Oriented Ontology and Its Critics

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# Metaphysical Primitives: Machines and Assemblages in Deleuze, DeLanda, and Bryant

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**Abstract:** Some variants of Object-Oriented Ontology define entities in terms of their powers. Such variants are rooted in Gilles Deleuze and Félix Guattari’s theory of “machinic assemblages”. This article asks whether such entities can be metaphysical primitives with regard to similarity and change. This is the case if no further existents are needed to account for these two features of reality. According to Levi Bryant’s machine-oriented ontology, entities defined in terms of powers are such primitives. According to Manuel DeLanda’s assemblage theory, they are not. DeLanda therefore holds that further metaphysical primitives must exist. After reconstructing the key features of the theories involved, I argue that Bryant’s position is ultimately more parsimonious, and that DeLanda’s theory confuses epistemological models with ontological realities.

**Keywords:** assemblage, machine, powers, virtual, Gilles Deleuze, Manuel DeLanda, Levi Bryant

## 1 Introduction

Object-Oriented Ontology (OOO) holds that individual entities at numerous levels of existence are irreducible realities. Different variants of OOO define such entities in different ways.<sup>1</sup> All nevertheless agree that such entities are *metaphysical primitives* in that for ontological rather than epistemological reasons, they cannot be eliminated from our best accounts of what there is. OOO thereby holds that reality is things like stars, minerals, leopards, bicycles, oxygen, skyscrapers, and amoebas, rather than just some substrate beneath or beyond such things.

My question is whether such entities could really be the only metaphysical primitives. If so, then everything is either such an entity or grounded in one or several such entities. Qualia and natural laws, for example, would then either be such entities or phenomena rooted in the existence of such entities. If not, then something exists that is neither such an entity nor grounded in such entities. A strong indicator for the existence of such additional primitives would be if we find that the kinds of entities central to an OOO turn out to have salient features that cannot be explained in terms of precisely such entities.

This is a rather broad question that cannot be answered in a single paper. I limit my analysis here to the key metaphysical issue of whether such entities can sufficiently account for the existence of similarity and change. I will not consider all theories currently associated with the OOO label but focus on Levi

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<sup>1</sup> Harman, *Object-Oriented Ontology* contains an overview of various object-oriented positions.

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Bryant's machine-oriented ontology and Manuel DeLanda's assemblage theory.<sup>2</sup> My reason is that these two theories, despite sharing many striking similarities, give diametrically opposed answers to the question at hand. As we will see, the metaphysical primitives that they, respectively, call "machines" and "assemblages" are similarly defined in terms of their powers or dispositions. One reason for this is that both theories are strongly inspired by the works of Gilles Deleuze and Félix Guattari, whose *A Thousand Plateaus* theorizes reality in terms of "machinic assemblages".<sup>3</sup> Bryant, however, holds that machines are the only metaphysical primitives, whereas DeLanda holds that in addition to assemblages there exist further primitives called "virtual diagrams".

The rest of this article provides detailed explanations of notions like "machine", "assemblage", and "virtual diagram". For now, simply note that DeLanda posits virtual diagrams precisely because assemblages alone would not account for one of their own salient features: the fact that one assemblage is often similar to many other assemblages. According to DeLanda, such similarities exist because of "virtual diagrams" that range over groups of assemblages and stipulate what such assemblages can become.<sup>4</sup>

In what follows, I first briefly reflect on Deleuze and Guattari's metaphysics. This clarifies the common background to Bryant's and DeLanda's theories and helps define some key terminology. It also shows that the question of whether machinic assemblages are the only metaphysical primitives is already pertinent to Deleuze's own philosophy. Two subsequent sections discuss Bryant's and DeLanda's respective ontologies. Following this, I argue that positing virtual diagrams is an unnecessary duplication of realities. Similarity as well as change can be explained in terms of assemblages alone.<sup>5</sup> In Section 6, I therefore conclude that virtual diagrams are epistemological tools rather than ontological realities and that powers may not require positing further metaphysical primitives.

## 2 Deleuze and virtuality

*A Thousand Plateaus* has been interpreted in many different ways over the past four decades. I nevertheless think that most interpretations are largely compatible with the following rendering of some of its basic metaphysical ideas.<sup>6</sup>

Entities at various levels of existence are "machinic assemblages".<sup>7</sup> Examples from *A Thousand Plateaus* include crystals, languages, sedimentary rock, books, anvils, and societies. A machinic assemblage is initially produced and subsequently maintained or shaped by other entities that comprise its parts and milieu.<sup>8</sup> Such entities are generally heterogeneous rather than homogeneous: various kinds of entities tend to feature in the production and maintenance of a machinic assemblage. Moreover, all such entities are machinic assemblages in turn. Yet despite being intimately connected to their parts and milieus, machinic assemblages cannot be reduced to those other assemblages. They are metaphysical primitives in the sense described earlier. This is because each machinic assemblage is defined by "powers" or "affects" that cannot be reduced to whatever grants it these powers or affects.<sup>9</sup> A machinic assemblage's

<sup>2</sup> Bryant, *Onto-Cartography*; DeLanda, *Assemblage Theory*.

<sup>3</sup> Deleuze and Guattari, *A Thousand Plateaus*.

<sup>4</sup> DeLanda, *Philosophy and Simulation*, 189; *Assemblage Theory*, 5–6.

<sup>5</sup> Sections 4 and 5 pick up on the analysis of DeLanda's work in Kleinherenbrink, *Against Continuity*.

<sup>6</sup> Except of course for interpretations of Deleuze as a non-metaphysical or even anti-metaphysical thinker (Zourabichvili, *Deleuze: A Philosophy of the Event* is a good example). Such interpretations are obviously relevant for Deleuze scholarship, but I disregard them here.

<sup>7</sup> Deleuze and Guattari, *A Thousand Plateaus*, 4, 22. Their synonyms for machinic assemblages include "rhizomes" and "multiplicities".

<sup>8</sup> *Ibid.*, 50. An entity may of course have several milieus. Deleuze and Guattari use the term "territory" to refer to an entity's attunement to various milieus (*ibid.*, 314).

<sup>9</sup> *Ibid.*, 106, 257.

powers are to be understood in terms of capacities to do things that its parts cannot. Such powers can change over time to the extent that an assemblage intensifies, gains, or loses connections with neighboring entities.

Take the example of human beings. Humans are intimately connected to numerous physical, technological, biological, social, and noological entities. Some of these constitute their parts and others their environments. Human beings have powers that are irreducible to these entities. Take the fact that human beings can speak languages, whereas many of the entities that allow us to speak languages cannot do so themselves. This testifies to human beings having irreducible powers or affects, even if other entities (re)generate these for us. Whatever powers allow me to speak English may very well be (re)generated by connections to books, memories, neurons, movies, and conversations, but these powers will not be reducible to such sources. A human being's powers may or may not change over the course of their existence, and the intensity and impact of such changes will vary according to circumstances.

A human being, then, is an assemblage insofar as it is produced and reproduced through its exposure to other entities. It is a machine insofar as the product of such exposure is a malleable set of emergent powers that cannot be reduced to their sources, such that each human being produces their own effects in reality. They do this on account of the malleable powers that they have or rather *are*. Because the powers that such assemblages are may vary over the course of their existence, Deleuze and Guattari prefer to talk about assemblages in terms of "becoming" instead of "being".<sup>10</sup>

What Deleuze and Guattari ultimately propose is that most if not all entities – ranging from atoms to planets, hydrogen particles to rivers, antibodies to capybaras, and marriages to nation states – are such machinic assemblages. A corporation, for example, is to be understood as a machinic assemblage in its own right, throwing its weight around and leaving its mark in milieus such as financial markets, city centers, and courts of law. It does so on account of its malleable powers, which are (re)generated and perhaps even altered through its exposure to other entities. Among those entities are its employees, which are machinic assemblages with malleable powers in their own right, as are the biological organs of those employees, the cellular components of those organs, and so on. Reality, then, is to be considered a vast and dynamic manifold of machinic assemblages that exist at various scales, each of them an irreducible reality, and each of them affected by other such assemblages with varying frequencies and intensities.

Yet this is where things get complicated. For several recurring concepts in *A Thousand Plateaus*, it is ambiguous whether they refer to specific aspects of machinic assemblages or to completely different things with their own distinct metaphysical status. Examples of such concepts include "strata", the "plane of consistency", the "plane of immanence", and the "abstract machine".<sup>11</sup> Let us take that last notion as an example. Early on, Deleuze and Guattari state that a machinic assemblage "is something entirely different from the abstract machine, even though it is very closely connected to it".<sup>12</sup> In what seems to clarify the nature of that connection, they add that "in every respect, machinic assemblages *effectuate* the abstract machine".<sup>13</sup> This suggests that the abstract machine, whatever it may be, has a distinct metaphysical status. It even seems that the abstract machine enjoys a certain metaphysical primacy over machinic assemblages. Later in the book, however, Deleuze and Guattari write that "there is no abstract machine, or machines, in the sense of a Platonic Idea, transcendent, universal, eternal. Abstract machines operate within concrete assemblages".<sup>14</sup> This suggests something rather different: that there are many abstract machines and that they, whatever they may be, are components or properties of machinic assemblages.

Many similar examples could be given of how Deleuze and Guattari write about planes, strata, and other such concepts. A full overview, however, is beyond the scope of this article, just as this is not the place to decide whether the book's conceptual ambiguities ultimately allow for a single coherent

<sup>10</sup> Ibid., 232–309.

<sup>11</sup> Ibid., 4.

<sup>12</sup> Ibid., 71.

<sup>13</sup> Ibid.

<sup>14</sup> Ibid., 510.

interpretation.<sup>15</sup> The point is simply that *A Thousand Plateaus* itself already raises the question of whether machinic assemblages are the sole metaphysical primitives.

For readers of Deleuze, this matter obviously ties into the legacy of his earlier *Difference and Repetition*. Deleuze there proposes that reality insofar as it consists of actual rivers, schools, typewriters, flowers, rats, hammers, and oceans cannot metaphysically account for itself. His many arguments for this claim cannot all be repeated here.<sup>16</sup> One argument, however, is especially salient for our current purposes: that actual entities would not account for the existence of change.<sup>17</sup> According to *Difference and Repetition*, any analysis of actual entities only ever yields “parts” and “qualities”.<sup>18</sup> For example, we can analyze a human being in terms of either its own parts and their qualities (brown eyes, a weak heart, or a strong stomach) or how they are qualified parts of other actual entities (a loving member of a family, a mediocre employee of a company, or an avid fan of a sports club). The same is true for all of actual reality: it consists of things that, on the one hand, have specific parts with certain qualities, and that, on the other hand, are themselves qualified parts of other things still.

The problem is that neither any of the things that exist within actual entities, nor any of the things in which actual entities exist are ever change itself. Even as my hair grows, all I ever find is actual hair with a specific length. I can never isolate its pure and simple “lengthening” from among its color, weight, components, and so on. Even a time-lapse video of my hair growing merely reveals a continuous series of actual states of affairs. No amount of slowing down yields change itself rather than a piece of hair that has always already just changed in length. I cannot make a cut between two moments of a single hair growing and then find “change” between two different lengths. It seems as if change is not found in actual entities. Change paradoxically occurs everywhere around us without ever revealing itself for what it is.

Deleuze’s famous response is to bite the bullet and accept that change must be located beyond actual entities.<sup>19</sup> He posits the existence of “dynamic processes” that are ontologically different in kind from everything actual.<sup>20</sup> Rather than having specific parts and qualities, these processes are pure change or, as Deleuze puts it, “difference in itself”.<sup>21</sup> Together, these dynamic processes compose a “virtual” and ontologically distinct “realm” that subtends all actual entities.<sup>22</sup> According to Deleuze, wherever dynamic processes clash at certain points with sufficient intensity, this gives rise to actual entities.<sup>23</sup> He calls complexes of such points “Ideas”.<sup>24</sup> Ideas would account for similarity in our world: actual entities of the same kind would all be produced by dynamic processes that keep converging at more or less the same points with more or less the same intensity.<sup>25</sup>

This earlier metaphysics of the virtual makes it all the clearer why Deleuze and Guattari’s use of terms such as “plane of consistency”, “plane of immanence”, and “abstract machine” raises the suspicion that machinic assemblages alone perhaps do not make for the complete metaphysics of *A Thousand Plateaus*. Yet we need not decide the matter here. The discussion so far merely served to elucidate the common background to Bryant’s and DeLanda’s respective metaphysics and to familiarize ourselves with some basic concerns and concepts. Having done so, we move on.

<sup>15</sup> See Adkins, *Deleuze and Guattari’s A Thousand Plateaus* for one attempt.

<sup>16</sup> See Somers-Hall, *Deleuze’s Difference and Repetition* and Williams, *Gilles Deleuze’s Difference and Repetition* for detailed analyses.

<sup>17</sup> Deleuze, *Difference and Repetition*, 82, 286, 290.

<sup>18</sup> *Ibid.*, 280.

<sup>19</sup> Which entails that actual entities are also never causes. For a detailed analysis, see Hallward, *Out of This World*.

<sup>20</sup> Deleuze, *Difference and Repetition*, 216.

<sup>21</sup> *Ibid.*, 234.

<sup>22</sup> *Ibid.*, 88, 166, 171, 258.

<sup>23</sup> *Ibid.*, 245.

<sup>24</sup> *Ibid.*, 181.

<sup>25</sup> *Ibid.*, 245–7.

### 3 Bryant and machines

Deleuze and Guattari are among the most frequently cited philosophers in Bryant's work, which makes it no surprise that the similarities between his metaphysics and their philosophy go well beyond mere terminological preferences.<sup>26</sup> Bryant proposes a metaphysics according to which reality "has never consisted of anything but machines."<sup>27</sup> All entities are thereby endowed with equal ontological dignity, regardless of whether they are "material or immaterial, corporeal or incorporeal."<sup>28</sup> As in Deleuze and Guattari, this is taken to hold at all scales of reality, meaning that steam engines are machines no less than quartz crystals, stars, and humans. All are irreducible realities that exercise their own degree of agency over other entities.<sup>29</sup>

A defining feature of machines is that they carry out "operations". Following Ian Bogost, Bryant defines an operation as a process "that takes one or more inputs and performs a transformation on it".<sup>30</sup> Hence "machines ought to be understood in terms of their operations, transforming inputs that flow through them, producing a variety of different types of outputs".<sup>31</sup> Given specific inputs and under the proper circumstances, factories transform raw materials into cars, pieces of software convert raw data into graphs, human beings convert thoughts into spoken words, and so on. For Bryant, then, entities are machines in that they add their own difference to reality. Any given machine carries out transformations that would not have happened had this machine not existed.<sup>32</sup>

The condition for the possibility of such operations is that machines have two ontological aspects. On the one hand, they have "local manifestations".<sup>33</sup> Local manifestations are the ways in which any given machine presently relates to other entities. Such manifestations are affected by how such other entities operate upon that machine in turn. Bryant gives the examples of how a tree will grow differently depending on the soil, rain, and light to which it is exposed. In addition to local manifestations, there is the "virtual proper being" of a machine, defined as "the operations of which it is *capable*".<sup>34</sup>

The virtual aspect of a machine need not be exercised or manifest at all times. Instead, this virtual aspect should be understood as the "powers" of a machine.<sup>35</sup> Bryant here remains quite close to Deleuze and Guattari by defining machines in terms of powers. Yet the difference is that in Bryant, the virtual is clearly and unambiguously not something ontologically distinct from actual entities. Contra Deleuze in *Difference and Repetition*, the virtual in Bryant does not refer to an ontological realm separate from actual machines. Each machine has a virtual aspect in and of itself. Its virtual powers are what "individuates" a machine, meaning that these powers make something *this* rather than *that* entity.<sup>36</sup> Powers, Bryant holds, are always in excess over the sum of a machine's manifestations: "it is of crucial importance to note that the power of an operation always has a greater range than the manifestations it happens to produce when operating".<sup>37</sup> This makes such entities irreducible realities in the sense that even the sum total of their current engagements with their parts and neighbors does not exhaust the powers that they ultimately are. The fact that such engagements with other entities are what shape, regenerate, and alter the powers of a machine does not change this.

<sup>26</sup> See *Difference and Givenness* for Bryant's exegesis of Deleuze's early works.

<sup>27</sup> Bryant, *Onto-Cartography*, 15. *Onto-Cartography* follows Bryant's *The Democracy of Objects*, which outlines an object-oriented metaphysics that does not yet make use of a "machinic" vocabulary.

<sup>28</sup> *Ibid.*

<sup>29</sup> *Ibid.*, 19.

<sup>30</sup> *Ibid.*, 38; see Bogost, *Unit Operations*, 7.

<sup>31</sup> Bryant, *Onto-Cartography*, 9.

<sup>32</sup> Unless of course a similar entity would have been in place.

<sup>33</sup> *Ibid.*, 42.

<sup>34</sup> *Ibid.*, 40.

<sup>35</sup> *Ibid.*, 41.

<sup>36</sup> *Ibid.*, 76.

<sup>37</sup> *Ibid.*, 41.

Bryant therefore concludes that machines never totalize or master even their own parts.<sup>38</sup> Even the parts of the most tightly controlled system will *be* powers that are in ontological excess over and above how these parts function, because such functions are mere local manifestations. Moreover, every machine will have its own “perspective” on its surroundings.<sup>39</sup> This is because it stands to reason that any given machine will only ever apprehend other entities in terms of the powers that it has.<sup>40</sup> The qualitative differences between me *seeing* a rock being thrown, my friend *feeling* the rock leave their hand as she throws it, and a glass pane *breaking* as the rock strikes it are due to the fact that the various entities in play have different kinds of powers by which they register the rock. This implies that any form of contact between two entities indeed involves at least a minimum of transformation, as Bryant’s metaphysics allows for no such thing as an entity relating to something without using its powers to do so (i.e., without adding its own difference).<sup>41</sup>

As we saw, Bryant theorizes the virtual as an ontological feature of machines and not as a further metaphysical primitive that exists in addition to machines. He also does not posit any other such primitives. He does propose various taxonomies, but these simply posit useful distinctions between types of machines. Machines can be corporeal like rocks and refrigerators, or incorporeal like recipes and theories. They can vary from “rigid” machines that can barely change to highly malleable “plastic” machines.<sup>42</sup> “Inanimate” machines such as minerals only change due to external causes or internal processes, while “animate” machines engage in operations to preserve themselves and “cognitive” machines actively and purposefully direct their own actions.<sup>43</sup>

The same is true for other recurring concepts in his metaphysics. Bryant calls his theory “an ontology of machines and media” (which is also the subtitle of *Onto-Cartography*), but a medium is simply a machine under specific circumstances. Any machine A is a medium for a machine B if A enters into “structural coupling” with B.<sup>44</sup> To be structurally coupled to a machine is to extend, amplify, or modify the powers or capacities of that machine.<sup>45</sup> Social media platforms, for example, extend and amplify our capacities to communicate, while engaging with such platforms simultaneously feeds back into the powers that we are by affecting our identities, beliefs, and desires. Bryant also posits the existence of “assemblages”, but an assemblage is just a machine insofar as it is produced by other machines: “machines are assemblages of other machines”.<sup>46</sup> After a first part called “machines”, *Onto-Cartography* continues with a second part called “worlds”, but a world, too, is strictly defined as “a loosely coupled assemblage of machines”.<sup>47</sup> Even when Bryant discusses various “planes”, these do not have the ambiguous ontological status that they have in *A Thousand Plateaus*. Bryant’s term “plane of content” simply refers to the sum (or one relevant grouping) of corporeal machines (physical entities, roughly put), whereas his term “plane of expression” refers to incorporeal machines (nonphysical entities with physical carriers, such as recipes).<sup>48</sup>

In short, Bryant’s machine-oriented ontology posits a single metaphysical primitive: machines with local manifestations to other machines and virtual powers that cannot be reduced to those local manifestations. All further concepts in his ontology serve to illustrate how actual machines (re)produce, alter, comprise, constrain, and extend each other. This implies that contra *Difference and Repetition*,

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<sup>38</sup> Ibid., 79.

<sup>39</sup> Again following Bogost, Bryant calls this *alien phenomenology*. See *Onto-Cartography*, 54–74.

<sup>40</sup> Ibid., 56.

<sup>41</sup> Ibid., 58.

<sup>42</sup> Ibid., 29.

<sup>43</sup> Ibid.

<sup>44</sup> Ibid., 30.

<sup>45</sup> Ibid., 31–3.

<sup>46</sup> Ibid., 9, cf. 80.

<sup>47</sup> Ibid., 113.

<sup>48</sup> Ibid., 125.

Bryant holds that there is no salient feature of machines that is not ontologically warranted by machines themselves.

## 4 DeLanda and assemblages

Like Bryant's machines, DeLanda's assemblages are not particular entities in a specific domain. All actual entities are assemblages. DeLanda holds that "entities ranging from atoms and molecules to biological organisms, species and ecosystems may be usefully treated as assemblages".<sup>49</sup> The notion of assemblage "cuts across the nature-culture divide" such that the same may be said for institutions, technologies, theories, festivals, and works of art.<sup>50</sup> Do note that DeLanda does not hold that entities "may be usefully treated" as assemblages because doing so would have epistemological or pragmatic benefits. The reason is metaphysical: entities *are* assemblages.

All assemblages are irreducible realities. In DeLanda's view, a theory of assemblages is currently "the main theoretical alternative to organic totalities".<sup>51</sup> A theory of organic totalities posits that *relata* are nothing but their relations.<sup>52</sup> An example would be a naive functionalism according to which a thing simply is what it does in a certain whole. A human heart would then *be* the sum total of everything it does in a body, just like each cell of that heart would *be* the sum total of everything it does in a heart. A serious problem for such theories is that it would follow that "a part detached from such a whole ceases to be what it is, since being this particular part is one of its constitutive properties".<sup>53</sup> This means that removing a gear box from a car turns that gear box into a new entity that is ontologically distinct from what the gear box in the car used to be. At the limit, it even implies that if you move just one inch to the left, you become a completely different entity. This seems absurd. We thus have strong reasons to think that entities have an ontological surplus beyond their current relational or functional deployments, and it is here that DeLanda positions his assemblage theory.

The unicity and irreducibility of an assemblage is first and foremost warranted by the fact that it has its own history: "the ontological status of any assemblage, inorganic, organic, or social, is that of a unique, singular, historically contingent individual".<sup>54</sup> Despite the existence of numerous water molecules, the initial production and subsequent existence of any given water molecule are unique to it. Likewise, despite the existence of many others of its kind, my bicycle was produced at a specific point in time and has since then accumulated a unique history of encounters with various other entities, the traces of which it now bears.

This historical unicity emphasizes how assemblages are ontologically external to their relations with other entities: entities are *more* than their engagements with others. A recurring notion that DeLanda uses to stress this is (causal) "redundancy".<sup>55</sup> First of all, not all features of whatever a bicycle encounters are involved in such encounters. A bicycle registers neither the color of asphalt nor the scent of its cyclist. Second, the same is true for the features of a bicycle's actual parts, such as its wheels and saddle. As DeLanda stresses, our usual way of thinking about entities that are "inside" and "outside" things are misleading.<sup>56</sup> Ontologically speaking, my spleen is no less irreducible and external to me than my bicycle is.

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<sup>49</sup> DeLanda, *A New Philosophy of Society*, 3.

<sup>50</sup> *Ibid.*

<sup>51</sup> *Ibid.*, 10.

<sup>52</sup> *Ibid.*, 9.

<sup>53</sup> *Ibid.*, 9.

<sup>54</sup> *Ibid.*, 40.

<sup>55</sup> *Ibid.*, 37, *passim*.

<sup>56</sup> DeLanda, *Assemblage Theory*, 10.

Third, what an assemblage does is often best explained in terms of what happens in the assemblage itself rather than by focusing on the finer details of its parts. In such cases, there is redundancy in the sense that the parts of an assemblage are often irrelevant when it comes to explaining the actions of the very assemblage that they generate. DeLanda's example is how we can often understand organizational behavior without honing in on all specific features of managers and accountants, precisely because the organization's behavior would have been "approximately invariant" under many slightly different circumstances.<sup>57</sup> Fourth and finally, an assemblage does not require all its components in order to remain itself.<sup>58</sup> Think, for example, of how a university can undergo changes in its students, staff, and buildings while remaining the same entity.

An assemblage is therefore not its components. It is rather characterized by emergent properties not found in its components. This is a common and well-established notion. Most entities have a host of properties (such as a size, weight, and color) that none of their components have. Water is wet whereas hydrogen and oxygen are not, human beings differ in age from their fingernails and hairs, and cats have a silhouette that their paws do not have. Such emergent properties are what an assemblage manifests "in the here and now", and this is what DeLanda calls the "actual" side of an assemblage.<sup>59</sup> An assemblage is thus defined by a unique historical process during which its actual properties are (re)produced and altered.<sup>60</sup> Yet actual properties are not enough to warrant irreducibility. That something is red, for example, does not just depend on that thing itself. The color of any given thing is a coproduction that also involves other assemblages.

As with Bryant's machines, DeLanda holds that there is more to assemblages than emergent properties alone. They have virtual "dispositions" that are "real but not necessarily actual if they are not currently manifested or exercised".<sup>61</sup> The various dispositions of whatever assemblages are involved in a specific situation will determine which actual (emergent) properties assemblages manifest. This is of course similar to how Bryant defines powers. The one difference is that DeLanda divides virtual dispositions into two kinds.<sup>62</sup> "Tendencies" are dispositions that can be considered inherent to something, such as the tendency of iron to melt at 1,538°C. "Capacities" are more contingent dispositions that something needs to acquire through exposure to other assemblages, such as iron's capacity to roll if it has been worked into a sphere.

These virtual dispositions of an assemblage are its "possibility space" or "diagram".<sup>63</sup> Given that assemblages engage with numerous other assemblages that provide them with constraints and affordances, no assemblage ever actualizes its virtual possibility space all at once. Rather, an assemblage only ever actualizes limited series of material and expressive roles and functions with regard to other assemblages.<sup>64</sup> Think of how the same bust of Aristotle can materially exercise its weight on a pedestal while expressively triggering boredom in a spectator. This ought to illustrate that dispositions are *causes*.<sup>65</sup> The statue of Aristotle triggers boredom as an actual property by virtue of the dispositions that characterize whatever assemblages are relevant to the situation (the statue, the spectator, and others besides).

Yet this is where DeLanda's philosophy starts to diverge from Bryant's. We saw that machine-oriented ontology holds virtual powers to be nothing more than an ontological feature of individual machines. This is not the case in assemblage theory. This is largely due to how DeLanda opposes his theory to all forms of essentialism.<sup>66</sup> By "essentialism", DeLanda means Aristotelean divisions of reality into individuals, species, and genera, such that any given individual instantiates its species and genus. A human individual

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<sup>57</sup> DeLanda, *A New Philosophy of Society*, 37.

<sup>58</sup> *Ibid.*

<sup>59</sup> DeLanda, *Assemblage Theory*, 108. This matches Deleuze's definition of actuality in *Difference and Repetition*.

<sup>60</sup> DeLanda, *A New Philosophy of Society*, 28, 38–9.

<sup>61</sup> DeLanda, *Assemblage Theory*, 5, cf. 108.

<sup>62</sup> *Ibid.*, 180.

<sup>63</sup> *Ibid.*, 122, *A New Philosophy of Society*, 30.

<sup>64</sup> DeLanda, *Assemblage Theory*, 22–33.

<sup>65</sup> Cf. *Ibid.*, 143.

<sup>66</sup> DeLanda, *A New Philosophy of Society*, 26–46.



would then be an instance of a genus (*animal*) and a species (*rational animal*), such that all humans have essential properties that are rigidly fixed by their eternal and unchanging species and genus. All further properties of entities would merely be accidental. If we take an iron sphere, for example, its sphericity is such an accidental property, as pieces of iron are clearly not spherical in and of themselves.

Such essentialism is irreconcilable with the idea that assemblages are profoundly defined by their unique, historical trajectory. In the case of the iron example, the fact that it has been wrought into a sphere alters its virtual dispositions in a real and ontologically significant sense. The traces left on assemblages over the course of their existence are thus by no means accidental. Moreover, a species itself is simply a higher order assemblage for DeLanda: a species is “an individual entity, as unique and singular as the organisms that compose it, but larger in spatiotemporal scale”.<sup>67</sup> By rough analogy, think of how, for assemblage theory, the recipe for Coca Cola is just as much an assemblage as each bottle of Coca Cola, and every single Starbucks shop is just as much an assemblage as the Starbucks corporation itself. Similarly, every single agami heron is an assemblage, but so is the agami heron species itself. It, too, has its own virtual dispositions and a unique historical trajectory.

The same is however not true for genera. As stated, DeLanda does not think that assemblages themselves account for one of their most salient features: the fact that many assemblages are similar.<sup>68</sup> What prevents one heron from encountering entities that make it something vastly different from another heron? What prevents a random batch of iron from acquiring a disposition whereby it suddenly melts at 60°C? DeLanda’s answer is his reworked version of genera. Unlike species, genera are not assemblages but the virtual “diagrams” discussed above.<sup>69</sup> It turns out that it is a mistake to read DeLanda’s statement that each assemblage possesses “its own diagram” as implying that each assemblage possesses its own *unique* diagram.<sup>70</sup> Rather, there is a single diagram per group of similar entities. Contra Bryant, DeLanda’s virtual is not an aspect of a particular machine but an ontological background for entire populations of machines. A diagram is “the equivalent of [a] body-plan [...] associated with the assemblage”.<sup>71</sup> Whereas the everyday life of herons is determined by encounters between assemblages, the fact that they are and will remain herons is determined by their diagram (that of Chordata, for example, as the phylum for all vertebrates). Likewise, rather than each unit of water having a private virtual diagram, there is one diagram that determines what all water can be.<sup>72</sup>

Diagrams are sets of “universal singularities.”<sup>73</sup> Singularities are simultaneously limits and attractors for their assemblages. DeLanda illustrates this notion with Max Weber’s famous ideal types of authority. Weber found that legitimate authority can only derive from three things: traditions and customs, procedural rules such as laws, and personal charisma. These are then the three universal singularities for the “diagram of an authority structure”.<sup>74</sup> Every politician who desires legitimate authority needs to gravitate toward one or several of these points. At the same time, these points also secure boundaries: legitimate authority cannot be had once one has moved outside the possibility space delineated by these three factors.

DeLanda undoubtedly holds that such diagrams are metaphysically real.<sup>75</sup> They are metaphysical primitives in the sense described earlier, and they are irreducible to the assemblages over which they range.<sup>76</sup> The being of assemblages themselves, then, is not just constituted and determined by their private dispositions and their local encounters with others, but also by larger virtual diagrams that cover groups

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<sup>67</sup> Ibid., 27, cf. 40.

<sup>68</sup> DeLanda, *Intensive Science and Virtual Philosophy*, 186.

<sup>69</sup> DeLanda, *A New Philosophy of Society*, 29–30.

<sup>70</sup> Ibid., 30.

<sup>71</sup> Ibid.

<sup>72</sup> DeLanda, *Assemblage Theory*, 117.

<sup>73</sup> DeLanda, *A New Philosophy of Society*, 30.

<sup>74</sup> Ibid.

<sup>75</sup> DeLanda, *Assemblage Theory*, 122.

<sup>76</sup> This is what DeLanda means when writing that universal singularities are “mechanism-independent” (*Assemblage Theory*, 179). Presumably, no existing politician can alter the diagram for legitimate authority.

of similar diagrams.<sup>77</sup> Interestingly, whereas Deleuze primarily posited a virtual aspect to reality to account for change, DeLanda does the same thing to warrant similarity.

Unlike assemblages, virtual diagrams never become actual. There are actual politicians and there is actual iron that we can encounter in the world, but we never encounter their virtual diagrams. This is not the only ontological difference between diagrams and assemblages. We saw how assemblages were characterized by relations of exteriority: there is always something about an assemblage (namely, its dispositions) that it withholds from its engagements. No assemblage has direct access to the dispositions of another assemblage (just to actualizations thereof). Yet given that virtual diagrams determine the dispositions that something can have, they cannot have dispositions themselves (otherwise we would require an infinite regress of virtual diagrams for virtual diagrams). If virtual diagrams have no dispositions, however, they lack the very thing that keeps things separate in the case of assemblages. DeLanda clearly sees this and therefore holds that diagrams are in fact merely zones within a single *universal* possibility space that he calls “a cosmic space in which diagrams exist free from the constraints of actuality”.<sup>78</sup> Note again that this cosmic virtual plane has full metaphysical reality.<sup>79</sup>

Real distinctions do not exist on this “cosmic plane of consistency” or “pure virtuality”.<sup>80</sup> Diagrams are merely separated by “gradients of intensity”, much like the difference between two temperatures is a continuous series.<sup>81</sup> At the limit, this cosmic plane seems to eliminate all causal efficacies of assemblages, as DeLanda holds that “every actual assemblage or component of an assemblage is the product of a segmentation of an ideal continuous virtuality”.<sup>82</sup> Whereas it initially seemed that assemblages produced each other’s unique historical trajectories, it now seems as if they are merely the results produced by virtual diagrams in a “segmentation” process reminiscent of Neoplatonic emanation. DeLanda holds that virtual diagrams come into being via “symmetry-breaking bifurcations” and that assemblages are just the “lowest level” in cascades whose upper levels are ontologically different from assemblages.<sup>83</sup> He ultimately concludes that “the world begins as a *continuum of intensity* that becomes historically segmented into species”.<sup>84</sup>

If we recall that each species is an assemblage, this cannot but mean that virtual diagrams and their cosmic space are a metaphysical primitive distinct from all assemblages. The ideal continuity of the cosmic plane even seems to enjoy metaphysical privilege over assemblages, in a temporal sense and also in the related sense that there only ever seems to be one-way traffic from virtual diagrams to actual assemblages, never the other way around. For example, DeLanda holds that a virtual diagram for the modern state already prefigured the actual existence of such states, such that hunter-gatherers already coexisted with that state in a virtual sense:

Some forms of social organization may indeed have appeared earlier than others – hunter-gatherers certainly existed before any central state apparatus – but that succession occurred only in actual time. In virtual time both coexisted.<sup>85</sup>

This suggests that the virtual diagram for the state also already existed before actual humans did. If the virtual and cosmic plane is to be continuous and intense, after all, it is strictly speaking impossible for any diagram to ever not exist at all. First, this would introduce temporal discontinuity. Second, if the existence of virtual diagrams is a matter of *intensity*, they can by definition only exist *more or less* at any given moment. Hence, there must be a metaphysically significant sense in which all virtual diagrams always already existed.

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<sup>77</sup> DeLanda, *A New Philosophy of Society*, 40.

<sup>78</sup> DeLanda, *Assemblage Theory*, 6.

<sup>79</sup> *Ibid.*, 6.

<sup>80</sup> *Ibid.*, 109.

<sup>81</sup> *Ibid.*, 111.

<sup>82</sup> *Ibid.*

<sup>83</sup> *Ibid.*, 123, 126.

<sup>84</sup> *Ibid.*, 148.

<sup>85</sup> *Ibid.*, 130.

## 5 Against virtual diagrams

Can machines or assemblages be the only metaphysical primitives needed to account for similarity and change? We can now specify this question in light of the above. Given a metaphysics of machines (assemblages) whose main ontological features are manifestations (or actualizations) and powers (or dispositions) that are irreducible to such manifestations, is there any salient feature of such entities that necessitates the existence of an additional kind of metaphysical primitive to account for similarity and change?

My view is that this is not the case. As soon as machines with powers are posited, there is no need to further enrich our metaphysics with the existence of a virtual and cosmic plane. To account for similarity and change, it suffices for powers to be the virtual aspect of particular machines. Extending this aspect into virtual diagrams that are segments and products of a universal plane is superfluous. There are various reasons for this. First, the concept of a cosmic plane creates more problems than it solves. Second, the very definition of assemblages or machines as having powers or dispositions already entails that they can account for similarity among themselves. Third, the same is true when it comes to accounting for change. The rest of this section elaborates on these reasons.

We start with the cosmic plane itself. Recall that that the world “begins” as a virtual continuum that then “segments” or “bifurcates” into various diagrams. These diagrams comprise the intensive continuum of the cosmic plane. Diagrams “cascade” from that plane, and assemblages are located at the “lowest level” of that plane. How to then understand the exact relation between the cosmic plane and actual assemblages?

Immediately after stating that the world begins as a continuum of intensity, DeLanda writes that for atoms, this intensive continuum is “embodied” in stars, which he describes as “possessing a minimal segmentation but not entirely differentiated”.<sup>86</sup> There are two ways to read this. The first would be that the cascading virtual continuum of diagrams is just a hierarchy of assemblages after all. Some assemblages, presumably atoms among them, would be more segmented and differentiated (whatever that may mean) than stars, others less so. In this case, the virtual continuum of diagrams would not be an additional metaphysical primitive. It would just refer to how assemblages and their concomitant powers are ordered from the perspective of a particular assemblage. When considering atoms, the stars in which they are forged are simply the most causally relevant environment or assemblage, whereas whatever assemblages forge stars are “further” from said atoms.

Yet much of what we have already reconstructed of DeLanda’s ontology speaks against this. Moreover, his *Assemblages and Virtual Diagrams* essay in *Assemblage Theory* concludes in a series of remarks that leave no doubt as to the ontological distinctness of the cosmic plane and its diagrams from assemblages. DeLanda describes diagrams as being “detached” from assemblages in such a way that their plane does not owe its consistency (presumably its structure and the rate at which it segments into diagrams) to actual assemblages.<sup>87</sup> He even accords the cosmic plane “another temporality” than the time “in which assemblages are born, live, and die.”<sup>88</sup>

The second way to understand the cosmic plane is therefore the proper one: the plane and its virtual diagrams are indeed metaphysically distinct from assemblages.<sup>89</sup> Yet this introduces a number of problems. What accounts for the existence of that plane in the first place? Why would it ever start segmenting or bifurcating into virtual diagrams? Why would these diagrams ever become or produce assemblages, or extend themselves into assemblages? Also recall DeLanda’s example of the state and hunter-gatherers. If all diagrams for all political forms always already existed, then why did they (along

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<sup>86</sup> DeLanda, *Assemblage Theory*, 148.

<sup>87</sup> *Ibid.*, 132.

<sup>88</sup> *Ibid.*

<sup>89</sup> The careful reader will note that this may only be true for virtual diagrams insofar as they comprise tendencies, not capacities. We will attend to capacities shortly.

with everything else) not come into existence all at once? Why did it all happen in the order that it did? DeLanda is aware of such problems and acknowledges that positing a cosmic plane seems similar to positing a Platonic Heaven, which would burden his theory with all the classical problems associated with Platonic theories:

We cannot simply postulate the existence of an ideally continuous cosmic plane [...] but must account for its production and maintenance. Otherwise the plane will be nothing but a Platonic heaven.<sup>90</sup>

It seems that DeLanda holds that this particular crisis would be averted by endowing the cosmic plane with its own temporality (as discussed).<sup>91</sup> Yet this just seems to intensify the problem. Endowing the cosmic plane – frequently described by DeLanda as a topological *space* – with a further temporality of its own just stresses the fact that assemblages have no effect whatsoever on whatever transpires on the cosmic plane. If they did, then we could, for example, propose that the diagram of the state did not actualize until it did, because this actualization required the existence of several other kinds of assemblages. Given the wholly separate nature of the cosmic plane, however, this is not a viable response.

Moreover, virtual temporality seems to be an *ad hoc* posit rather than a concept rigorously connected to the rest of the conceptual framework. It also does not help that the virtual time of the cosmic plane is defined in almost mystical terms, as a “a present without duration that is unlimitedly stretched in the past and the future directions simultaneously, so that nothing actually happens but everything just happened and is about to happen”.<sup>92</sup> Incidentally, much of this makes it difficult to understand how an assemblage could ever acquire the kind of dispositions that DeLanda calls capacities. How could such capacities ever be inscribed alongside tendencies within a virtual diagram that is utterly distinct from the space and time of assemblages?

Nevertheless, someone may argue that this just shows the need to rework or refine the notion of a virtual plane. It or something similar to it would still be required to account for salient features of machines. The features under scrutiny in this article are change and similarity. My view is that powers themselves suffice as the condition for the possibility of change and similarity.

We start with similarity. Something needs to explain “the regularity and stability of the characteristics of individual entities.”<sup>93</sup> Assemblages can do this. As we have seen, DeLanda already holds that assemblages affect each other’s manifestations and dispositions. Assemblages produce, alter, support, and destroy each other. They even alter their own constituent parts.<sup>94</sup> Even species, we saw, are real assemblages that provide constraints and affordances for their individual members. What more would be required for similarity between assemblages? Cars of a certain brand are similar to each other because they are produced by the same assemblages in the same factories. Cars overall are also similar to each other, because they are produced in different factories that nevertheless use the same kind of machinery that was probably built based on the same blueprints and with the same kind of components. Similarity between assemblages simply arises when the same assemblage repeatedly exercises its powers on a specific group of entities, much like it just takes a single army to train numerous similar soldiers.

Likewise, there is no heron diagram needed for the production of further herons, nor is an oak tree diagram required for the production of further oak trees. All that is needed are specific entities that make for a relatively stable environment for further assemblages. As soon as powers or dispositions are already posited, the fact that herons do not start spawning alligators and that acorns do not become dinosaurs is immediately accounted for. The simple reason that such miracles do not happen is that the relevant entities (and further assemblages comprising their parts and environments) do not have the dispositions or powers to turn into such radically different kinds of things. Powers themselves already account for

<sup>90</sup> DeLanda, *Assemblage Theory*, 131.

<sup>91</sup> *Ibid.*, 132.

<sup>92</sup> *Ibid.*, 132.

<sup>93</sup> *Ibid.*, 142.

<sup>94</sup> *Ibid.*, 18.

similarity, in no small part because the powers of an assemblage account for what further powers it *cannot* gain! No particular rock has the power to acquire the ability to speak and reason, which warrants that it will never become the sole self-conscious rock.

Someone could object that this argument just covers similarity in capacities, or dispositions that an assemblage may or may not acquire over the course of its existence. It would not cover tendencies, which, as described earlier, are dispositions inherent to assemblages and independent of their encounters with others. Such tendencies are due to universal singularities in a diagram, which warrant such “special” features that are shared by many different assemblages.<sup>95</sup> Take the earlier example of political authority, or how all water has three possible states and freezes and boils at the same temperatures.

Such invariants, however, are also easily explained in terms of assemblages. Recall that for assemblage theory, our usual way of distinguishing between what is inside and outside an entity is misleading.<sup>96</sup> Ontologically speaking, parts are just as external to an assemblage as its environment. Only its powers or dispositions are internal to it, whereas other entities merely connect to it. What we call “parts” are just further assemblages that happen to connect to an assemblage for relatively long periods of time and in relatively reliable ways. They are prime examples of what Bryant calls structural coupling. That all water has the inherent features of boiling and freezing at specific temperatures is due to the fact that all water is generated by hydrogen and oxygen that combine in specific ways. Ontologically speaking, there is no difference whatsoever between factories endowing all cars with similar capacities, and hydrogen and oxygen endowing all water with similar tendencies.<sup>97</sup> Only if a similar kind of water could somehow be produced by arranging, say, possums and snowmobiles in certain ways would it make sense to look beyond hydrogen and oxygen to account for its inherent features. Yet that is not the case. The “inherent” tendencies shared by similar assemblages are indeed not acquired over the course of their existence. They are acquired at their point of production, when they are generated and from that point on regenerated by specific assemblages that serve as their parts. In short, similarity between entities is fully explained by them being exposed to, and their powers shaped by, specific other assemblages, plus by their powers (not) allowing them to register specific other assemblages in certain ways.

This brings us to change, Deleuze’s original reason to introduce a virtual realm in *Difference and Repetition*.<sup>98</sup> Here, too, everything is accounted for as soon as powers or dispositions are introduced as aspects of entities.

We can start with change simpliciter. How an assemblage manifests its powers or dispositions depends on the nature of its encounters with other entities. Hence, it is other assemblages that trigger this rather than that actualization, as in when I switch from speaking Dutch to English when my Irish colleague enters the room. In addition to the actual manifestations, powers themselves are also changed (or maintained or eliminated) through an assemblage’s encounters with other entities. A person does not become more charismatic by literally approaching the charisma attractor in a universal space of singularities. They simply acquire certain powers by exposing themselves to other people, books, movies, and so on. Whoever has the desire to acquire the capacity to charm people needs to interact with a relevant set of particular assemblages, not with a cosmic plane. Finally, given that losing or acquiring powers opens or closes an assemblage to various encounters with other entities, the possibility of changes to an assemblage’s relations is accounted for as well.

Yet someone may object that there is more to be accounted for than change in an assemblage’s actualizations, powers, and relations. We also need to account for the existence of different “rates” of change, as Bryant sometimes puts it.<sup>99</sup> Changes exist, but not all changes have the same speed, impact, or

<sup>95</sup> DeLanda, *A New Philosophy of Society*, 29.

<sup>96</sup> DeLanda, *Assemblage Theory*, 10.

<sup>97</sup> Note that it does *not* follow that there would have to exist an *Ur*-factory or *Ur*-hydrogen. Nothing in the concept of assemblages precludes the unrelated emergence of distinct groups of entities that are nevertheless all similar.

<sup>98</sup> Given the cosmic plane’s “own temporality”, one could argue that the virtual must also *still* account for change in addition to similarity in DeLanda’s ontology.

<sup>99</sup> Bryant, *Onto-Cartography*, 10, 25, 136.

intensity. Yet this is also inherent to the very concept of powers or dispositions. For example, one student's existing capacity to speak several Latin languages may allow them to learn French faster than another student who lacks this capacity, even though both are similarly exposed to the same books and teachers. Moreover, variation in the rate of change of even one student's powers is also accounted for, as increasing one's capacity to speak French can speed up the very process of acquiring that very capacity. In short, there are different rates of change because not all powers are equally susceptible to the same kinds of encounters, and these different rates of change can themselves differ over time because the encounters that assemblages have can alter the very powers based on which they have them.

## 6 The unnecessary duplication of reality

Section 5 has argued that the dispositions (powers) of assemblages (machines) are themselves the condition for the possibility of similarities and changes. To first briefly return to Deleuze, this lends weight to interpretations of *A Thousand Plateaus* as indeed abandoning his earlier metaphysics of a virtual realm. To take one example, Brent Adkins argues in detail that notions such as “abstract machine” refer to topological descriptions of what entities do. These topologies have a purely cognitive or epistemological function. They do not *determine* what happens in or to an assemblage, they merely *describe* it in an intelligible way.<sup>100</sup>

In my view, something similar holds for machine-oriented ontology and assemblage theory. Bryant's theory seems to be more parsimonious by positing machines as the only metaphysical primitives. As argued, it seems to be warranted in doing so. If there are entities defined by metaphysically real powers or dispositions that need not be expressed at any given time, then similarity and change are by definition accounted for. Extending the notion of virtual powers into the notion of virtual diagrams, along with the latter's associated concepts of a cosmic plane, intensive continuity, a second and distinct form of temporality, and a process of segmentation in which assemblages themselves take no part, is superfluous. The cosmic plane is an unnecessary duplication of reality.

Unlike machine-oriented ontology, assemblage theory risks putting the cart before the horse. Leaders, for example, can gain legitimate political authority only in particular ways, because they operate around people who are psychologically and physiologically disposed to respond positively to some traits and negatively to others, and because political leadership by definition concerns answering questions about how a community is to mobilize or alter its traditions and laws. The real existence of such assemblages is the reason that we can subsequently build a *model* of political authority centered on charisma, traditions, and laws. Likewise, nothing ever heats or cools because of universal singularities. In accordance with how machines and assemblages were defined, things heat or cool when they have the power to do so, and this power is activated in encounters with actualizations of other entities, such as extremely hot or cold surfaces.

Virtual diagrams or a cosmic plane are thus not required as further metaphysical primitives when seeking to account for similarity and change. In my view, the preceding analysis also teaches us that the same is true for any other kind of metaphysical primitive that someone may want to posit in this context, precisely because machines as defined here already account for similarity and change themselves.

This does not imply that virtual diagrams ought to be eliminated from philosophy. It just means that they are powerful epistemological tools rather than metaphysically real entities that ground the existence of everything else. It also does not mean that an OOO theory that understands the irreducible reality of individual entities in terms of powers or dispositions is unproblematic. For example, Graham Harman criticizes both DeLanda and Bryant on the grounds that a proper conceptual analysis of powers would reveal them to be too relational to constitute the non-actual ontological surplus required to make a specific

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<sup>100</sup> Adkins, *Deleuze and Guattari's A Thousand Plateaus*, 62, 78.

entity irreducible to all other things.<sup>101</sup> This could spell real trouble for power or disposition-based OOO variants.<sup>102</sup> Moreover, judging by similar debates on power ontologies in analytical philosophy, it may turn out that “powers”, “dispositions”, and “capacities” are not at all the same kinds of things.<sup>103</sup> This could make their frequent conflation in Deleuze and Guattari, Bryant, and DeLanda problematic. Finally, this article has only considered the need to account for similarity and change as a possible reason to introduce certain additional metaphysical primitives. There may be other features of reality (time, space, life, laws of nature, and so on) that the metaphysics of machines cannot sufficiently account for, but that is a question for another time.

To conclude, there may ultimately be good reasons to supplement assemblages (or machines) that have powers (or dispositions) with additional metaphysical primitives, or even to abandon the very concept of powers (or dispositions) altogether. The fact that any metaphysics ought to be able to account for the existence of similarity and change, however, is clearly not among those reasons.

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<sup>101</sup> Harman, “DeLanda's Ontology,” 379–82; “The Current State of Speculative Realism,” 27.

<sup>102</sup> I do not think Harman's criticism holds water, but the argument is beyond the scope of this article.

<sup>103</sup> Bird, “Overpowering.”