

# The World Just Is The Way It Is

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## Abstract

What is the relationship between objects and properties? According to a standard view, there are primitive individuals (or ‘particulars’, or ‘substrata’) that ‘instantiate’ or ‘have’ various properties. According to a rival view, objects are mere ‘bundles’ of properties. While there are a number of reasons to be skeptical of primitive individuals, there are also a number of challenges that the bundle theorist faces. The goal of this paper is to formulate a view about the relationship between objects and properties that avoids many of the problems inherent in both of these views. The view I will end up defending implies a particularly radical version of Monism, and it collapses the object-property distinction altogether.

## 1. Introduction

We ordinarily think of the world as composed of a number of *individuals* or *particulars*. These individuals have various properties, and they are related to each other in a number of ways. It’s not hard to see why this view should come so naturally to us: this sharp division between individuals and their properties is directly built into the language we use to think about the world. On the one hand there are *subjects*, and on the other hand there are *predicates*.

Philosophers who believe in the existence of individuals, *individualists*, disagree about many things. *Nominalists* think that properties should not be reified: while we can speak of individuals being various ways, strictly speaking there are no properties; there are only individuals.<sup>1</sup> Among those who think there are such things as properties, some think that properties are *universals*, and some think that properties are *tropes*. Universals are repeatable: two individuals can have the very same universal. Tropes, on the other hand, are not supposed to be repeatable. Consider two duplicate red apples. The Universal theorist will think that the very same universal of *redness* is present in both apples, while the Trope theorist will think that the particular redness of the first apple is distinct from the particular redness of the second apple.<sup>2</sup>

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<sup>1</sup> ‘Nominalism’ is used in slightly different ways by different philosophers, so to a certain extent my use of the word is stipulative. ‘Class Nominalists’, for example, believe that properties are classes of their corresponding extensions, and sometimes trope theorists get categorized as ‘Trope Nominalists’. My use of the word ‘Nominalism’ corresponds to what some philosophers call ‘Austere Nominalism’. Since I will be giving very general objections towards individualist theories in section 1, these more fine-grained distinctions will not be relevant for our purposes.

<sup>2</sup> For the rest of this paper, my usage of the term ‘universal’ will be referring to so-called ‘immanent’ universals, which inhabit the concrete world, rather than ‘transcendent’ universals, which exist outside of space and time.

Despite these significant variations, there are compelling philosophical reasons for rejecting any theory which countenances individuals. At the same time, however, there are compelling reasons for rejecting the most popular alternative to the standard individualist picture, the so-called ‘bundle’ theory. In the first half of this paper, I present the case against both theories, with the goal of clearly distinguishing and making explicit the theoretical challenges that both types of theories face (sections 2 and 3). In the second half of this paper, I turn to developing my own positive theory of objects and properties, whose ultimate aim is to collapse the object-property distinction altogether. The main argument for the theory will be that it allows us to overcome all of the challenges facing standard individualists and bundle theorists discussed in the first half of the paper (sections 4, 5, 6, and 7).

The view I will end up defending is committed to a particularly radical version of Monism. Other kinds of Monism can be usefully divided into two types. The first kind of Monism targets entities within some particular ontological category. For example, Monism about concrete objects is the claim that there is only one concrete object. The second kind of Monism targets the number of ontological categories as a whole, by claiming that there is only one. While these different kinds of Monism are usually defended on separate terms, I will be defending a view that combines both of these kinds of Monism. There is only one ontological category, and moreover, it only has one member. When stated so bluntly, this kind of unqualified Monism might look absurd. Such a view seems to verge on metaphysical mysticism. By way of closing, I will argue for an entirely different perspective. Those philosophers who are the most ‘anti-metaphysical’ should find this kind of unqualified Monism most attractive (section 8).

## 2. Individuals

There are at least four different sorts of considerations that have persuaded many philosophers to be skeptical of individuals. The first two are arguments found in Paul (2013, 2017) and Dasgupta (2009, 2017), and the third is an argument that has been widely influential throughout the history of philosophy. Each of these three arguments has considerable force. However, I will be mainly focusing on a fourth argument, which targets the *modal relationship* between individuals and their properties. Going forward, a central desideratum of anti-individualist theories will be to comply with these four considerations.

### 2.1. Paul’s Argument: A One-Category Ontology

L.A. Paul’s primary motivation for developing her own distinctive *mereological bundle theory* is to have a one-category ontology. Metaphysicians have distinguished many different sorts of ontological categories: individuals, events, states of affairs, universals, tropes, etc. According to a one-category ontology, however, the world is only built from one ontological category. The appeal of such an ontology is clear. As Paul (2017) writes, ‘One category ontologies are deeply appealing, because their ontological simplicity gives them an unmatched elegance and sparseness’ (32).

While this sort of appeal to theoretical elegance and simplicity certainly has its attractions, an important limitation of this argument is that it does not rule out every theory of individuals. It rules out theories according to which there are individuals and properties (whether they are conceived

of universals or tropes), but it fails to rule out theories that only countenance individuals, such as Nominalism (which Paul herself rejects on independent grounds).<sup>3</sup>

## 2.2. Dasgupta's Argument: Individuals as Danglers

Dasgupta argues against individuals on the grounds that they are explanatory 'danglers', which is to say that they are *empirically undetectable* and *physically redundant*.

As an example, Dasgupta considers the case of absolute velocity. If material objects had an absolute velocity, independent of any reference frame, then these properties would be undetectable. We are only able to detect the relative velocities of material objects. Moreover, these absolute velocities would be physically redundant, in the sense that any two closed physical systems that only differed with respect to their absolute velocity would behave in indistinguishable ways. The physical dynamics of a system are completely insensitive to the absolute velocity of material objects. It is for these reasons that the orthodox view in the philosophy of physics is that there is no such thing as absolute velocity.

A similar point applies to individuals. Suppose there were two closed rooms that were perfect qualitative duplicates of each other. They only differed with respect to the individuals inside both rooms. We can imagine that you are allowed to explore and observe both rooms to your heart's content. Suppose you label a particular plant found in the first room *a*, and you label the corresponding plant in the second room *b*. Now, imagine you are then placed in one of the two rooms at random. Could you determine whether individual *a* or individual *b* was in the room? No, you could not. No amount of ordinary perceptual evidence could help you distinguish them. You could only observe the distribution of qualities found in the room. Moreover, no scientific experiment could be performed to help you distinguish the two rooms either, since physical processes are completely insensitive to *which* primitive individuals lie behind various qualities.

This idea that individuals are 'hidden' behind the qualities that they instantiate has had a long history in philosophy. Locke (1690/1975) described these hidden individuals as an 'unknown support of those qualities', and Russell (1940) argued that 'We experience qualities, but not the subject in which they are supposed to inhere' (122).

Just as we have strong reasons to eliminate absolute velocity from our best theories, we have strong reasons to eliminate individuals.

## 2.3. The Possibility of Bare Particulars

One of the most historically influential objections against individualism is that it naturally leads to the possibility of *bare particulars*.<sup>4</sup> If individuals occupy their own distinct ontological category independent from properties, what is there to stop the existence of an individual that instantiates

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<sup>3</sup> While Nominalism fulfills our first desideratum, it does not fulfill any of the other three.

<sup>4</sup> Philosophers who have worried about bare particulars in some form or other include Plato (*Timaeus* 48c-53c), Aristotle (*Metaphysics* 1029a20-33), Locke (1690/1975), and Russell (1940). For more recent criticisms, see, for example, Mertz (2001, 2003), Bailey (2012), and Giberman (2012).

no property whatsoever?<sup>5</sup> To many philosophers, bare particulars seem obviously unintelligible. Everything has to have some positive, intrinsic nature. To be *just is* to be some way or other.

As many are quick to point out (e.g. Sider 2006), there is of course *a* sense in which bare particulars have properties. After all, bare particulars have the properties of being colorless, massless, shapeless, odorless, etc. They also have the property of *being such that*  $2+2=4$ ! These sorts of properties, however, are not the sort of properties that philosophers have in mind when they object that bare particulars ‘have no properties’. Given an abundant conception of properties, of course bare particulars have many properties. However, if we restrict ourselves to the perfectly natural properties that objects are supposed to instantiate, bare particulars instantiate no such properties. They simply *lack* all such properties. It is in this sense that bare particulars strike so many philosophers as incoherent.

This objection to individualist theories is not the objection that individualist theories *entail* that bare particulars are possible. The individualist can always simply supplement their theory with the claim that bare particulars are impossible. However, this addition would simply be an unexplained constraint on modal space.<sup>6</sup> What one would like from a theory is an explanation as to why bare particulars are impossible. Ideally, we should be able to *derive* the impossibility of bare particulars from the correct theory of objects and properties, rather than simply barring their existence by fiat. Fortunately, as we will see, there are anti-individualist theories that do exactly this.

#### 2.4. *The Modal Relationship between Individuals and their Properties*

Given a metaphysics of individuals and properties, there are two natural modal questions one could ask about how they relate to each other. First, given some global distribution of qualitative properties, could the very same distribution of properties have been instantiated by different individuals? Second, given some individual bearing some properties, could the very same individual have had different properties? If so, which ones?

The first question concerns *haecceitism*, the doctrine that the world could differ non-qualitatively without differing qualitatively. Suppose the world only contained two individuals, *a* and *b*, such that *a* is F and *b* is G. Could it have been that some other individuals, other than *a* and *b*, instantiate F and G (respectively)? For example, could it have been that *a* is G and *b* is F? On an individualist theory, the natural answer is ‘yes’. After all, given a metaphysics of individuals, it seems perfectly conceivable that some other individuals instantiate F and G.<sup>7</sup> Claiming that it is *impossible* for any other individuals to instantiate F and G in this way, without any further justification, seems to amount to a brute necessity, which many philosophers wish to avoid.<sup>8</sup> If we want to avoid these merely haecceitistically different possibilities, then we should look for an explanation as to why they can’t obtain. Ideally, we should be able to *derive* the doctrine of anti-haecceitism (i.e. the

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<sup>5</sup> As Sider (2006) points out, some philosophers use the term ‘bare particular’ to refer to the underlying individual or ‘substratum’ that instantiates properties, even when the individual *does* instantiate properties. My focus will be on what Sider calls ‘truly’ bare particulars, which instantiate no fundamental, intrinsic properties.

<sup>6</sup> Moreover, this constraint would violate a natural Humean-inspired doctrine that there shouldn’t be unexplained necessary connections between entities of different ontological categories. See Giberman (2015: 315).

<sup>7</sup> For a survey of conceivability arguments for haecceitism, see Cowling (2017).

<sup>8</sup> For some philosophers who oppose brute necessities, see Dorr (2004, 2008), Cameron (2008), Chalmers (2009), and Goswick (2018). See Van Cleve (2018) for an overview.

doctrine that it's impossible for the world to differ without differing qualitatively) from our underlying non-modal metaphysics.<sup>9</sup>

Why should one want to endorse anti-haecceitism in the first place? Different philosophers have different motivations. To some, the strangeness of certain haecceitistic possibilities is reason enough. Could there really be a world qualitatively indiscernible from the actual world except that the individual that is my iPhone switches places with the individual that is my water bottle? Such feelings of strangeness are dialectically ineffective though. Here are two different kinds of arguments for anti-haecceitism.

Many philosophers of physics have wanted to endorse anti-haecceitism as a way of securing that the laws of physics are deterministic. The famous *hole argument* in the context of general relativity purports to show that the theory of general relativity fails to be deterministic because of certain haecceitistically different possibilities that are left open by the laws of general relativity.<sup>10</sup> Hawthorne (2006) also gives a priori arguments, independent of any particular physical theory, against determinism, which only work given haecceitism. For those philosophers who wish to salvage at least the empirical viability of determinism, there is strong reason to endorse anti-haecceitism.

Haecceitism also commits one to a realm of inexplicable, brute facts that it would be better to avoid. Again, consider the world where *a* is F and *b* is G. Why is it that *a* is the individual that is F and *b* is the individual that is G, rather than vice versa? Why did F 'attach' to *a* rather than to *b*? For the haecceitist, who recognizes that these are both genuine possibilities, there will be no explanation. It is simply a brute fact. We can also ask other somewhat embarrassing questions. Just *how many* distinct possibilities are there with exactly two individuals, one of which is F and one of which is G? Finitely many? Infinitely many? If there are infinitely many, exactly what cardinality of infinity? Once one opens the door to haecceitism, many other seemingly unanswerable questions raise their head. For example, for which two individuals in the actual world is it possible for everything to be exactly as it is except those two individuals swap places? Could it be that everything is as it is except I swap places with an electron? My laptop with my phone? One blade of grass with another? An infinity of such awkward questions need to be answered given haecceitism.

While the issue of haecceitism is concerned with whether qualitative possibilities can differ with respect to its individuals, one can also ask how an individual could differ with respect to its qualities. This is the general issue of *de re* modality. Consider Socrates. Could he have had different parents? Could he have been a female? A non-biological robot? A poached egg? A non-concrete entity (e.g. Williamson 2013)? Exactly how tall could Socrates have grown? 10 feet? 10<sup>10</sup> feet? Exactly what is the cut-off? Given a metaphysics of individuals which instantiate various properties, these seem to be perfectly sensible questions. After all, there doesn't seem to be any reason why Socrates *had* to have all the properties he in fact has. So it seems like there must be a realm of facts concerning which properties he could have had and which properties he couldn't

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<sup>9</sup> Dasgupta (2015) has also argued that we should be able to derive anti-haecceitism from our underlying non-modal metaphysics, rather than simply putting it into our theory 'by hand'.

<sup>10</sup> See Pooley (2013, Section 7) and Norton (2015) for recent overviews of the hole argument. Perhaps the most popular way to secure determinism while holding on to haecceitism appeals to facts involving the essences of space-time points. See Teitel (forthcoming) for arguments against these essentialist approaches.

have had. It is easy to be skeptical of such facts, however. How could we possibly come to have knowledge of these facts? Won't such facts inevitably be vague, or involve entirely arbitrary cut-offs (such as Socrates' height)? Moreover, taking *de re* modal properties seriously results in the infamous puzzles of constitution. Famously, if a lump of clay was molded into a statue, it seems like the lump could survive being squashed, but the statue could not. Should we be error theorists about our conflicting intuitions? Should we believe there are multiple co-located objects? If so, exactly how many co-located objects are there coincident with the statue?<sup>11, 12</sup>

Perhaps the most prominent way that some philosophers have tried to avoid these issues, while still endorsing a metaphysics of individuals, involves the apparatus of counterpart theory. However, the counterpart theorist's analysis of *de re* modal claims remains highly controversial, and even if successful, it is a matter of controversy whether it really secures anti-haecceitism.<sup>13</sup>

Again, rather than simply taking on board a package of controversial modal views in the form of counterpart theory, we should instead try to formulate an underlying non-modal metaphysics from which we can *derive* the fact that these questions are bad questions. Fortunately, as we will see, there are theories that straightforwardly dissolve these questions concerning the modal relationship between individuals and their properties, without any controversial *de re* modal analyses.

### 3. Bundles

The most popular alternative view is the bundle theory. Just as individualist views come in many different flavors, so do bundle theories. As I shall be using the term 'bundle theory', all bundle theories are committed to the existence of properties (either understood as tropes or universals) and some sort of relation C, which we will call 'compresence', that holds between properties that serves to 'bundle' properties together. Primitive individuals are then reduced to mere 'bundles' of properties. For example, consider a world which we would ordinarily describe as only having two particulars, *a* and *b*, such that *a* has intrinsic properties F and G and *b* has intrinsic properties G and H. One traditional kind of bundle theorist will describe this world as one according to which there are three universals F, G, and H such that C(F,G) and C(G,H):

F-G    G-H

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<sup>11</sup> For an overview of the problem of material constitution, see Wasserman (2018).

<sup>12</sup> While I have been focusing on the modal relationship between objects and properties, many of these same worries also arise with respect to identity across time. The final view I will be defending will also avoid these puzzles in the temporal case.

<sup>13</sup> Perhaps the most famous objection facing counterpart theory is the so-called 'Humphrey Objection', originally put forward by Plantinga (1974: 116) and Kripke (1980: 45) and more recently advanced by Merricks (2003). Skow (2008, 2011) also argues, for example, that Lewis' version of counterpart theory is best interpreted as a version of haecceitism. Lastly, it should be noted that many of these issues regarding the modal relationship between individuals and properties can be restated as purely *explanatory* questions, rather than modal questions. For example, we might still wonder: why was this distribution of qualities had by exactly *these* individuals? Even those individualists who adopt counterpart theory, or some other deflationary attitude towards modal questions (e.g. Sider 2011: ch. 5), still face these explanatory questions.

For our purposes, bundle theories may be divided into two broad camps. There are those that *identify* bundles with the same properties and those that do not. Let us call the first type *Extensional Bundle Theories* and the second type *Non-Extensional Bundle Theories*.<sup>14, 15</sup>

### 3.1. Non-Extensional Bundle Theories

There are many different ways one could be a Non-Extensional Bundle Theorist. Consider a world which we would intuitively think of as having two different individuals at some spatial distance apart, each with exactly two properties, F-ness and G-ness. How could we make sense of this situation having *two* bundles if bundles are entirely constituted by their properties and both bundles have the very same properties? Typically, bundles are thought to be analogous to sets: both are supposed to be uniquely determined by their members.<sup>16</sup>

Here's one way.<sup>17</sup> Suppose the properties being bundled together are tropes instead of universals. Then, there could be two distinct bundles of F-ness and G-ness because the particular F-ness of the first bundle is primitively distinct (i.e. distinct, but not by virtue of its qualitative nature) from the particular F-ness of the second bundle (and same with G-ness). According to this view, there would be four tropes,  $F_1$ ,  $F_2$ ,  $G_1$ , and  $G_2$ , such that  $C(F_1, G_1)$  and  $C(F_2, G_2)$ :

$$F_1-G_1 \quad F_2-G_2$$

Here's another way. Suppose that the compresence relation itself is an item in one's ontology that should be conceived as a trope. According to this view, there would be two universals F and G (or perhaps four tropes), and two primitively distinct compresence relations  $C_1$  and  $C_2$ , such that  $C_1(F, G)$  and  $C_2(F, G)$ :

$$F_1-G \quad F_2-G$$

There are many other non-extensional bundle theories that philosophers have developed, but each of them crucially involves a similar idea: positing some kind of entity that can be primitively distinct from a corresponding qualitatively indiscernible entity (e.g. Rodriguez-Pereyra 2004, Zhang 2018, and Paul 2017).

While these sorts of theories are perfectly coherent, because they are committed to primitively distinct entities, they do not live up to the motivations behind many anti-individualist theories in the first place. For the sake of concreteness, let us focus on the trope-theoretic version of the bundle theory. Consider the following two possible worlds, each containing exactly two duplicate objects:

$$F_1-G_1 \quad F_2-G_2$$

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<sup>14</sup> This terminology comes from Benocci (2018).

<sup>15</sup> Some philosophers have developed the 'bundle theory' in a way that is eliminativist about bundles (e.g. Hawthorne and Sider 2002). For them, there are really only compresent properties that stand in various relations. This kind of view is still vulnerable to the criticism regarding tropes in section 3.1, so it would have to be formulated in terms of universals to satisfy our desiderata. Moreover, it is also vulnerable to 'The Relational Possibilities Objection' in section 3.2 as well.

<sup>16</sup> In fact, if bundles were not uniquely determined by their members, then bundle theorists would face similar modal questions to individualists. Why did these properties give rise to *this* bundle rather than some other possible one?

<sup>17</sup> The following two strategies are explicitly discussed in Benovsky (2008).

F<sub>1</sub>-G<sub>2</sub> F<sub>2</sub>-G<sub>1</sub>

Because these situations are qualitatively indiscernible, they differ in an undetectable and physically redundant way. After all, physics isn't sensitive to the particular identities of the tropes that are instantiated in some particular situation. This runs afoul of Dasgupta's (2009, 2017) argument against danglers. Furthermore, because both situations differ without differing qualitatively, such a theory implies a kind of haecceitism. If the first situation obtained, we could wonder why F<sub>1</sub> was compresent with G<sub>1</sub> rather than with G<sub>2</sub> (and why F<sub>2</sub> was compresent with G<sub>2</sub> rather than G<sub>1</sub>), but such curiosity could only be met with an entirely inexplicable, brute fact.<sup>18</sup>

### 3.2. Extensional Bundle Theories

Extensional Bundle theories have universals (rather than tropes) as part of their ontology, together with a primitive relation of *compresence* that serves to bundle universals together. Unsurprisingly, the main objection to such theories targets the fact that they *identify* bundles containing the very same universals. Because of this, such theories have a hard time accounting for certain possibilities. Consider, for example, a world that we would ordinarily describe as only containing two duplicate spheres that are ten feet apart. The natural thing to say is that there are two distinct bundles of universals that are ten feet apart. However, this violates the extensionality of the theory. In response, extensional theorists typically say that there is a *single* bundle of universals that is ten feet apart from itself (e.g. Hawthorne 1995 and Curtis 2014). Just as universals may be multiply located, why can't 'bundles' of them be multiply located as well? Many objections have been raised towards this sort of move, and it is still a matter of much controversy whether it is successful. Below, I will quickly canvass three different sorts of objections that such a theory faces, which I think cumulatively make a strong case that the anti-individualist should look elsewhere.

First, there is *The Multi-Location Objection*. It is certainly counterintuitive that a bundle of universals can be 'ten feet apart from itself', but Vallicella (1997) has supplemented this intuition with an argument, conditional on certain prima facie plausible claims about bundles, locations, and instantiation. If we are to say that bundle *B* is the sort of thing that can be multiply-located, then, Vallicella argues, *B* must be a universal, rather than a particular. Particulars are not the sort of thing that can be wholly located at different places at once, whereas universals clearly are. But a universal is multiply-located only if it is multiply instantiated, and so if *B* is to be multiply-located it must also be multiply instantiated. But, according to the bundle theory, what it is for a universal to be instantiated is for it to be compresent with other universals. But *B* is clearly not compresent with any other universals, so it is not instantiated. So, it is not multiply instantiated, and so it is not multiply located.

Second, there is *The Modal Objection*. We initially objected that the extensional theory could not account for the existence of two duplicate spheres that are ten feet apart. In response, the

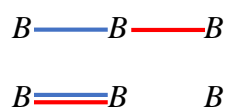
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<sup>18</sup> The Non-Extensionalist might try to avoid this kind of haecceitism by individuating bundles in some other qualitative way. For example, instead of claiming that bundles are uniquely determined by their constituents, one might claim that bundles are uniquely determined by their constituents and the (qualitative) relations that they stand in. The symmetric example I have considered here, however, shows that this theory is also committed to haecceitistic differences. One might also try to individuate bundles by the *locations* that they occupy. However, if one is a relationist about space, then this move is not available. If one is a substantivist and reifies locations, then (given that locations are also bundles) similar problems will arise for individuating locations.



extensionalist could redescribe the possibility as one where there is one sphere that is ten feet apart from itself. However, it can be argued that this is beside the point: what was intuitive was that there could be *two* spheres that are ten feet apart, not one sphere ten feet apart from itself. Rodriguez-Pereyera (2004) defends this modal judgement on the basis of continuity concerns. Everyone should agree that there can be two *almost* duplicate spheres that are ten feet apart. The first sphere can have temperature T and the second sphere can have an infinitesimally higher different temperature, T\*. But if this is possible, then it should be possible for the second sphere to decrease its temperature ever so slightly, to temperature T. This establishes the possibility of *two* duplicate spheres that are ten feet apart, contrary to the extensional theory.<sup>19</sup>

Third, there is *The Relational Possibilities Objection*, which I take to be the strongest objection to the theory. Hawthorne and Sider (2002) note that, even if we grant the extensionalist that they can deal with symmetric cases, the extensionalist has a hard time distinguishing certain sorts of relational possibilities. Consider, for example, the following two distinct possibilities. Each consists of three duplicate particulars, such that adjacent particulars are ten feet apart, together with two different sorts of relations,  $R_1$  (red) and  $R_2$  (blue):



On simple versions of the extensionalist theory, these two possibilities are indistinguishable. In both possibilities, the very same facts obtain, namely:

$B$  is ten feet from itself

$B$  is twenty feet from itself

$B$  bears  $R_1$  to itself

$B$  bears  $R_2$  to itself

What the extensionalist needs to distinguish these possibilities is some way to distinguish ‘which’ particulars bear the relations to each other, even when it is the *same* bundle bearing these relations. Hawthorne and Sider (2002) have developed the most detailed account of how to accommodate these relational possibilities, but their theory leaves much to be desired, even by their own lights. As they write, ‘Rather than containing a single notion of compresence, the primitive ideology of the bundle theorist now contains infinitely many locutions, each of which can be used to make a different sort of statement about universals’ (64). Swallowing an infinite number of primitive notions to make sense of these sorts of possibilities is a rather large bullet to bite for the extensionalist.

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<sup>19</sup> In his recent defense of extensional bundle theory, Curtis (2014) simply denies the modal intuition that the second sphere could have decreased its temperature very slightly. In addition, to respond to other sorts of modal objections, Curtis (2014) resorts to the (controversial) apparatus of counterpart theory. The anti-individualist theory that I will come to endorse is not committed to counterpart theory.

#### 4. Object Monism

Our goal is to develop an anti-individualist theory that accommodates our four desiderata in section 2 while avoiding the pitfalls of standard bundle theories canvassed in section 3. The key to developing such a theory is to modify extensional bundle theories in two crucial ways.

The first modification involves rethinking the mereological structure of the world. On the standard picture, the world is ultimately built up out of the smallest elements of reality, perhaps point particles or space-time points that are related in various ways.<sup>20</sup> On an alternative Monist picture, the world isn't 'built up' out of any tiny pieces, rather the world as a whole is what everything derives from. While 'bottom-up' views remain popular, in recent years there has been a surge of interest in the Monist picture, according to which, at least fundamentally speaking, there is only the world as a whole. The view has been motivated by considerations of physical law (Schaffer 2013, Builes MS), quantum entanglement (Schaffer 2010a, Ismael and Schaffer 2016), causal essentialism (Segal 2014), space-time substantivalism (Perry 2017), vagueness and parsimony (Horgan and Potrč 2008), mereology (Schaffer 2007, 2010a), truthmakers (Schaffer 2010c), the denial of external relations (Vallicella 2002), and failures of free modal recombination (Schaffer 2010b). The view has even been appealed to in various radical solutions to the hard problem of consciousness (Goff 2017, Strawson 2019, Chalmers 2015, 2019)!

Specifically with respect to anti-individualist theories, there have already been some signs that point to Monism. The most detailed development of the extensional bundle theory, developed by Hawthorne and Sider (2002), entails a certain kind of metaphysical holism, according to which 'whenever there is a network of interrelated things, the facts cannot be captured by anything simpler than a single statement describing the entire organic whole' (62). Similarly, the sort of anti-individualist theory developed by Dasgupta (2009, 2017) *also* implies a kind of holism. Dasgupta describes his view as one in which 'one can state something fundamental only by characterizing the fundamental nature of the world as a whole...this is what might be called a 'many-from-one' metaphysics, on which many elements (the individualistic facts) flow together from the one source (the World Fact)' (2017: 20). On a bottom-up metaphysics, this is very surprising. If the world is really built up out of a plurality of tiny components that are related in various ways, why should one expect there to be indispensable, fundamental facts that concern the entire world as a whole? Let's call this *The Holist Objection*. Clearly, the surprise behind the Holist Objection is straightforwardly resolved on a Monist metaphysics. In fact, this sort of holism is *entailed* by the Monist's view.<sup>21</sup>

Combining Monism with the bundle theory gives us a theory with only one World Bundle from which everything else derives. The properties contained within the World Bundle would be certain sorts of global, fundamental *distributional* properties. Distributional properties are ways of 'filling in' some spatially extended object with some quality. For example, *being polka-dotted* is a color distributional property and *being hot at one end and being cold at the other* is an example of a heat-distributional property.<sup>22</sup> In the case of modern physics, perhaps the most plausible candidate for such distributional properties are distributional field-theoretic properties, which specify the

<sup>20</sup> For independent reasons to think that space-time isn't composed of a continuum of extensionless points, see Strawson (2006: 16), Arntzenius (2008), Segal (2017), and Builes and Teitel (forthcoming).

<sup>21</sup> For another anti-individualist metaphysics that entails a kind of holism, see Turner (forthcoming).

<sup>22</sup> For much more on distributional properties, see Parsons (2004).

distribution and magnitude of various fields across space-time.<sup>23</sup> This kind of theory, I claim, has the resources to avoid all of the problems facing extensional bundle theories.

The initial problem facing the extensional theory is its failure to recognize certain sorts of symmetric possibilities. The reason why this spells trouble for extensionalist theories is because, at least on a ‘bottom-up’ metaphysics, such symmetrical possibilities are interpreted as having multiple distinct indiscernible individuals (e.g. two electrons or two spheres). The existence of multiple qualitatively indiscernible individuals, however, is incompatible with extensionalist theories. In contrast, such symmetric possibilities are *not* interpreted as containing distinct qualitatively indiscernible individuals given Monism. Rather, they are simply interpreted as the single World Bundle having a certain *symmetric distributional property*, which in no way clashes with extensionalist theories.

Furthermore, the Monist does not face *The Multi-Location Objection*, since it does not posit bundles that are multi-located. The World Bundle is not ‘ten feet away from itself’! Moreover, a Monist metaphysics *also* resolves another kind of multi-location objection. Extensional bundle theories are committed to universals, and a distinguishing feature of universals is that they can be multiply located. This feature of universals has been troubling to many – how could a single thing be wholly present in widely separated locations? This feature of universals is absent given Monism. The universals in the World Bundle are not multiply located.<sup>24</sup>

Neither does the Monist face *The Modal Objection*. According to this objection, the extensionalist needs to accommodate the existence of a world containing only two indiscernible spheres, because such a possibility is ‘continuous’ with possibilities containing only two *almost* indiscernible spheres. However, the Monist will simply reinterpret the possibility of two almost indiscernible spheres as one in which the World Bundle contains an *almost* symmetric field-theoretic distributional property. The modal space that the Monist bundle theory recognizes does not have any abrupt discontinuities, unlike bottom-up extensional bundle theorists.

Turning to the last objection, the Monist easily avoids *The Relational Possibilities Objection*. In order to distinguish certain sorts of relational possibilities, Hawthorne and Sider (2002) have argued that standard extensionalist theories need to adopt infinitely many distinct primitive notions of *compresence*. However, the Monist has no need for any relations between bundles. For the Monist, there is only the World Bundle. Therefore, the Monist bundle theorist is free to adopt a single primitive relation of compresence that serves the function of binding together the various fundamental distributional qualities of the world.

It is important to note that, in order to deal with these objections, one needs to be an *Existence Monist* rather than a *Priority Monist*.<sup>25</sup> According to a Priority Monist version of the view we have

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<sup>23</sup> The Monism I will be defending here is intended to be neutral on whether space-time is emergent or fundamental (e.g. see Huggett and Wüthrich (2013) and Le Bihan (2018)).

<sup>24</sup> There is a (partly verbal) question here about whether the properties in the World Bundle should be understood as ‘universals’, given that they are not repeatable. What is important is just that the properties are unlike tropes in that they are individuated qualitatively. In other words, the properties in the World Bundle can’t be primitively distinct from other possible (duplicate) properties, in order to avoid the problems in section 3.2. The nature of a universal is exhausted by its qualitative nature, whereas the nature of a trope involves a primitive *thisness* in addition to its qualitative nature.

<sup>25</sup> This terminology comes from Schaffer (2018).

been considering, the only ‘fundamental’ bundle is the World Bundle, but there are additional ‘non-fundamental’ bundles that are composed of non-fundamental universals. The problem with this view is that the problems we have been considering apply to sub-worldly bundles regardless of whether they count as fundamental or not. For example, in a symmetric world, the extensionalist will still be committed to multi-located non-fundamental bundles. There will also be modal discontinuities insofar as an *almost* symmetric world will consist of two non-fundamental bundles, while a perfectly symmetric world will suddenly collapse these two non-fundamental bundles into one.<sup>26</sup>

Having dealt with these objections, it is helpful to have an intuitive picture for how the Monist is thinking. To this end, consider the following analogy. Imagine that the world was one large *carpet*. Suppose that the carpet wasn’t a flat carpet, but rather was bumpy and wrinkly throughout. In the ordinary business of life, small inhabitants in this one large carpet might find it convenient to *reify* these bumps and wrinkles. They might start ascribing various properties to them and talking about how they relate to other bumps and wrinkles. The metaphysicians among them might start asking questions about the persistence conditions of various bumps (if we made this bump smaller, would it be the same bump?) and their *de re* modal properties (could this very bump have been a wrinkle instead?). In fact, since the inhabitants are so small, they would find little need to ever talk about the global properties of the carpet as a whole. Rather, they would spend all of their time talking about the various indentations, crevices, bumps, and wrinkles in the carpet. Because of this, it would be natural to conclude that the carpet was *composed* of these various tiny aspects of the carpet. The local mereologists would then face some awkward questions: when there are two scattered bumps on the carpet, is there a further object, a bump-bump? The local bundle theorists would also face various conundrums: couldn’t there be a carpet with exactly two perfectly symmetrical bumps, which is otherwise flat? Unfortunately, these inhabitants would be making a mistake. The various bumps, wrinkles, indentations, and crevices in the carpet should *not* be reified in this way. In reality, there is only the carpet, albeit a bumpy and wrinkly one.<sup>27</sup>

From the Monist perspective, our situation is similar. On a popular field-theoretic interpretation of our best quantum field theories, ordinary objects like tables and chairs, and even the smallest of ‘particles’ such as electrons, are just *excitations* in these global quantum fields, analogous to ‘bumps’ or ‘wrinkles’ in the one carpet.<sup>28</sup> As the philosopher of physics d’Espagnat concludes:

In quantum field theory, reality lies at a deeper level than could be imagined by common sense or even elementary quantum mechanics. A particle is not itself ‘a reality’; it is simply a more or less transient property of reality, a level of excitation (to speak as physicists do) ... of reality, excited in a fashion corresponding to the field in question (1983: 85).

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<sup>26</sup> The Priority Monist can deal with The Relational Possibilities Objection insofar as they can distinguish different relational possibilities with different global distributional qualities. However, there are still general problems with how relations between non-fundamental bundles should be understood (e.g. see Sider (2020: 65-72)).

<sup>27</sup> Again, all of the problems I have described here would arise for wrinkles and bumps *regardless* of whether they count as ‘non-fundamental’. At first glance, it might seem that a compromise position with the Moorean and the Eliminativist is to classify the common-sensical objects of the Moorean as non-fundamental. However, this doesn’t remove any of the problems that motivated Eliminativism in the first place.

<sup>28</sup> For defenses of the field-theoretic interpretation of our best quantum field theories, see Halvorson and Clifton (2002), Redhead (1995), and Zeh (2003). For an overview of different interpretations, see Kuhlman (2018).

## 5. Property Monism

The Monist bundle theory already avoids all of the problems that we wanted to avoid in section 3. At this point, the anti-individualist bundle theorist could simply endorse Monism and call it a day. However, a much more theoretically satisfying anti-individualist theory waits around the corner, as long as we are willing to make one more (fairly radical) change to our Monist bundle theory.

### 5.1. Against Compresence

It would be better if the bundle theorist could somehow do without compresence. As Benovsky (2008) writes, ‘the compresence relation is usually taken as unanalyzable and ontologically primitive. It is thus defined and individuated not by its nature or intrinsic features of which we are not told much by [the bundle theory], but rather by its theoretical role: it is a *unifying device*, a device that takes properties to make up objects’ (177). Benovsky goes on to note that the compresence relation in fact plays the very same role as individuals do. Just as many properties are unified by a single compresence relation to make a single object, individuals are the singular item in which multiple properties are ‘instantiated’ to make a propertied object. Benovsky writes:

Both [the bundle theory] and [the individuals theory] thus have a unifying device, a primitive and under-defined one, an entity whose purpose is to tie or glue together properties of a single object. Paraphrasing Locke, in *both* cases this unifying device is a ‘we-know-not-what’...but it is a ‘we-know-what-it-does’, that is, we know its theoretical role. (177)

On reflection, it’s not at all clear how the compresence relation could fulfill its intended role: how could *redness* and *sphericity* be combined to make a red sphere? Because the compresence relation is usually left as primitive, we are left in the dark. Call this problem, that the compresence relation is a primitive (we-know-not-what) relation that somehow serves to unify properties (we-know-not-how), *The Unity Problem*.

Also, because of the compresence relation, the bundle theory is less parsimonious than it could otherwise be. On the one hand, the bundle theorist is committed to a category of intrinsic *qualities*, but on the other hand it is also committed to an entirely different kind of thing, a primitive relation of *compresence*. Moreover, when various properties are related by the compresence relation, this is supposed to generate a new entity, a ‘bundle’ of properties. For straightforward reasons, such a bundle cannot be identified with the qualities that compose it; the bundle is *one* while the qualities are *many*.<sup>29</sup> Being committed to a primitive relation of compresence, together with numerically distinct ‘bundles’, goes against the spirit (if not the letter) of our initial desideratum of having a one-category ontology. Let us call this sort of worry *The Parsimony Problem*.

Lastly, there is independent pressure for the Monist in particular to be wary of fundamental relations. One of the most historically influential arguments for Monism, Bradley’s regress, is

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<sup>29</sup> There is a similar problem in the metaphysics of mereology: one cannot identify a whole with its parts, since this violates the fact that identity is a one-to-one relation. While this remains the orthodox position, some philosophers have denied that identity is a one-to-one relation and have defended the thesis of *composition as identity*. For a recent collection of articles on the subject, see Cotnoir and Baxter (2014).

incompatible with the existence of ungrounded, fundamental relations.<sup>30</sup> There is therefore extra dialectical pressure for the Monist to get rid of the bundling relation. Call this problem *The Relation Problem*.

### 5.2. *The World Just Is The Way It Is*

The reason why the Monist bundle theory needs a compresence relation is to unify the many qualities of the world into one. After all, the many qualities are supposed to be all *of* the one world. How are we to capture this important unity among the qualities of the world without some sort of unifying device? The way out is to deny that the world has ‘many’ qualities at all. There is really only one fundamental quality that the world has, its *maximal* quality. Call this view, that the world only has one fundamental quality, *Property Monism*. Call the view that the world has many distinct fundamental qualities, *Property Pluralism*.

Once this move is made, the Monist bundle theory becomes the view that there is a single maximal quality that is ‘bundled’ together with itself using a compresence relation, which generates a ‘bundle’ distinct from the one maximal quality. At this point, the redundancy of the compresence relation is clear. Rather than identifying the world with a ‘bundle’ consisting of only one quality, we should dispense with the compresence relation altogether and identify the world with the one maximal World Quality instead. This view has the resources to collapse the object-property distinction altogether. The World *just is* the Way it is.

This view easily avoids *The Unity Problem*. There is no mystery of how distinct qualities can somehow combine into one, since there is only one quality in the first place.

The view also avoids *The Parsimony Problem*. The view has no need of a primitive compresence relation, nor does it have any need for positing a numerically distinct ‘bundle’. The reason why Property Pluralists needed to endorse the existence of a ‘bundle’ is because the world is a single thing, while its qualities are many. So, the world cannot be identified with its qualities. This objection is absent for Property Monists, so the Property Monist is free to identify the world with its maximal quality. Instead of saying that the World *is* F (in the sense of predication), we should instead say that the World *is* F-ness itself (in the sense of identity).

Lastly, by rejecting the compresence relation, the view does away with *The Relation Problem*.<sup>31</sup>

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<sup>30</sup> For an overview of Bradley’s Regress, see Perovic (2017).

<sup>31</sup> While I have mainly been addressing the problems with bundle theory, Property Monism also addresses some of the main problems with Dasgupta’s (2009, 2017) anti-individualist theory, *Algebraic Generalism*. First, Turner (2017) criticizes Algebraic Generalism because it uses a primitive piece of ideology (‘&’) that serves to ‘stitch’ properties together, similar to the compresence relation. Just as Property Monism dissolves the need for compresence, it dissolves the need for this primitive operator. Second, the holism that Algebraic Generalism is committed to is *explained* by a Monist metaphysics, but it is a surprise given a bottom-up metaphysics. Third, it is controversial whether individuals can be adequately grounded in the one ‘World Fact’ of Algebraic Generalism as Dasgupta suggests (e.g. see Russell 2017). The view I have developed here is eliminativist about sub-worldly individuals, but the world as a whole may be identified with the one World Quality.

## 6. Defending Property Monism

Property Monism certainly contradicts common sense. To many, I suspect it will just seem obviously false.

Property Monism shares this feature with Object Monism. Just as to many it seems obvious that there is a plurality of objects (e.g. particles or space-time points), to many it seems obvious that there is a plurality of qualities (e.g. mass, spin, charge). The problem that each theory faces is structurally analogous. In the case of Object Monism, there is the general mereological question of how we ought to ‘carve up’ the world into objects. Some only carve out its smallest components; some also choose to carve out ordinary objects; some also choose to carve out objects that no one would ever dream of. In contrast, the Object Monism rejects the very idea of carving up the world into objects. The world is fine without any carvings. Similarly, the Property Monist faces the question of how the *nature* of the world should be carved up. If we do choose to carve up the nature of the world, exactly how many qualities ‘combine’ to make up how the world is? The Property Monist rejects the thought that the nature of the world should be carved up in this way, just as the Object Monist rejects the thought that the world should be carved up into objects.

In response to this sort of worry, the Object Monist needs to explain how the immense structure and complexity of the world can be accommodated by a single object (e.g. by positing global distributional properties of the world that account for the fundamental fields of physics). Similarly, the Property Monist needs to explain how the structure and complexity of a single object can be accommodated by a single quality. Property Monism can have all the theoretical virtues in the world, but if it cannot account for the complexity of the world, then it does not merit our belief.

My defense of Property Monism will consist of three parts. First, I present some intuitive examples of properties that motivate Property Monism. Second, I discuss how we should think of these properties as having some kind of internal ‘structure’. Lastly, I consider the relation between Property Monism and physics.

### 6.1 Intuitive Examples

Instead of thinking of the world as being composed of numerically distinct universals, we should instead think of these seemingly different universals as mere *aspects* or *modes* of a single underlying global universal. What is this ‘aspect’ talk supposed to mean? The easiest way to get a grip on this is by way of example.

Consider a maximally determinate color property *C*. *C* has a rich internal structure to it, owing to its different *aspects*. *C* has a certain *hue*, a certain *saturation*, and a certain *brightness*. It is sometimes fruitful to distinguish these different aspects of colors and study them separately. Nonetheless, a natural thought is that these three aspects are all *derivative* of *C*. The *reason why* an object counts as having a particular hue, or a particular saturation, or a particular brightness, is because of what color it is. It is incorrect to say that the object really has three wholly distinct qualities – a hue, saturation, a brightness – and in virtue of those three qualities somehow ‘combining’ it counts as having a certain color. At the very least, the view that the more ‘global’ property *C* is the only genuine universal, from which the other three are mere aspects, is an intelligible view. And if it is an intelligible view, then this establishes the possibility of qualities

that have a rich internal structure. The mere epistemological fact that it might be fruitful to distinguish different aspects of a quality and study them independently is perfectly consistent with the Property Monist's claim that ultimately there is only one maximal quality.

Here is a deeper, and perhaps more controversial, example. Consider the category of *phenomenal qualities*. Phenomenal qualities specify *what it's like to be* something. A sizeable fraction of philosophers think that phenomenal qualities are among the fundamental qualities of the universe, including dualists, panpsychists, and idealists.<sup>32</sup> In fact in recent years, several philosophers have defended the idea that the universe as a whole has fundamental phenomenal qualities, and that our own phenomenal states are ultimately grounded in them.<sup>33</sup> At the very least, there is more reason to think that phenomenal qualities are fundamental qualities of the universe than color qualities! I'd like to suggest that we treat phenomenal qualities analogously to color qualities. In reality, there is only my *total experiential state*. This quality fully specifies exactly what it's like to be me. This quality has various 'aspects' to it – visual aspects, auditory aspects, olfactory aspects, etc. However, the reason why I count as having these aspects is because of my total phenomenal state, not vice versa. Perhaps the most powerful argument in favor of this thought is the much-discussed phenomenon of the *unity of consciousness*. Brook and Raymond (2017) introduce the phenomenon as follows:

Human consciousness usually displays a striking unity. When one experiences a noise and, say, a pain, one is not conscious of the noise and then, separately, of the pain. One is conscious of the noise and pain together, as aspects of a single conscious experience. Since at least the time of Immanuel Kant, this phenomenon has been called the *unity of consciousness*. More generally, it is consciousness not of *A* and, separately, of *B* and, separately, of *C*, but of *A-and-B-and-C* together, as the contents of a single conscious state.

According to Bayne and Chalmers (2003), we should say that experiences are 'unified' just in case they are 'aspects of a single encompassing state of consciousness'.<sup>34</sup> Searle (2002) argues that we have a 'single, unified conscious field containing visual, auditory, and other aspects' and that 'there is no such thing as a separate visual consciousness' (54). Tye (2003) also endorses what he calls 'the one-experience view'. In considering the different aspects of our experience he writes, 'There are not five different . . . experiences somehow combined together to produce a new unified experience.' Rather, 'there is just one experience here' (27). If one rejects Property Monism with respect to consciousness, one faces the awkward question of saying *exactly how many* basic phenomenal qualities somehow combine to make one's total experiential state. The prospects for answering this question, however, don't seem very promising (e.g. is there supposed to be a basic phenomenal quality for every 'pixel' of one's visual field?).

One last example. It used to be thought that electric phenomenon were very different than magnetic phenomenon. On the one hand, there is a magnetic field, and on the other hand, there is an electric field. At least in a classical setting, these two separate fields may be thought of as distinct, global distributional properties of space-time. However, after the advances of electromagnetism and

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<sup>32</sup> For recent articulations and defenses of panpsychism and idealism, see Chalmers (2015, 2019). For an overview of dualism, see Robinson (2017).

<sup>33</sup> See, for example, Jaskolla and Buck (2012), Nagasawa and Wager (2017), Goff (2017), Kastrup (2018), Strawson (2019), and Albahari (2019a, 2019b).

<sup>34</sup> Also see Bayne (2010: 20, 31).



special relativity, we have learned to think otherwise. After all, observers in equally valid inertial frames will disagree on what they call ‘electric’ fields and what they call ‘magnetic’ fields. In reality, there is only a global electromagnetic field, and we may think of the electric field and magnetic field as mere aspects of this underlying global distributional property.

Even besides these intuitive examples, the Object Monist is *already* committed to there being richly structured qualities in the form of global distributional qualities, which serve to specify (say) the distribution and magnitude of quantum fields throughout all of space-time. There doesn’t seem, then, to be any *in principle* worry to the idea that the structural complexity of the world can be captured by a single immensely rich and structured maximal quality.

## 6.2 Aspects as Higher-Order Properties

How should we understand this aspect-talk? Insofar as aspect-talk helps us describe the nature of some underlying property, it is natural to construe aspect-talk as talk of the properties of a property. For example, we may say that that the color *scarlet* has brightness *b* or that my total experiential state has visual property *v*. However, these higher-order properties should be understood in the way that a Nominalist understands first-order properties of individuals. They are not additional items in our ontology. The electric field and the magnetic field, for example, should not be reified as separate items in our ontology over and above the electromagnetic field, otherwise our ontology would be frame-relative!

There are two natural worries about this kind of approach to higher-order properties. First, one might worry that this suggestion is *ad hoc*. Why reify first-order properties of individuals, but not second-order properties of universals? Second, one might worry that similar questions about the modal relationship between individuals and their properties arise between the World Quality and its properties.

My main response to both worries is that the relationship between the World Quality and its properties is far more intimate than the relationship between an individual and its properties. Suppose that *scarlet* was a perfectly precise color quality. It’s simply *inconceivable* that scarlet has any other brightness (or hue, or saturation) than it in fact has. We can know *a priori* that scarlet must have the brightness it has. The brightness of scarlet is already ‘built in’ to its color. Similarly, given some maximally specific electromagnetic field, one can automatically *derive* the electric and magnetic components of the electromagnetic field (within some frame of reference). Talk of the electric ‘aspect’ of the electromagnetic field does not require positing additional items into our ontology.

None of this is the case with primitive individuals. Once one posits the existence of Socrates, it is an additional, non-trivial commitment to specify what Socrates is like. Once one posits the existence of some maximally specific World Quality, it is not an additional, non-trivial commitment to specify what the World Quality is like. The aspects of the World Quality are already ‘built into’ the World Quality. Furthermore, since it’s perfectly conceivable for Socrates to have other properties than he in fact has, it is an open question what the *de re* modal properties of Socrates are. However, it is not an open question whether the World Quality could have had different aspects. We can know *a priori* that the World Quality must have the aspects that it has,

just as we can know *a priori* that a maximally specific electromagnetic field must have the electric and magnetic components that it has.

Higher-order properties of the World Quality, unlike first-order properties of individuals, come cheap. There are innumerable ways one can describe my total experiential state. We shouldn't posit an additional item in our ontology corresponding to each of these ways of describing my single, underlying experiential state.<sup>35</sup>

### 6.3 Physical Considerations

Even if it's *coherent* to think that the diversity in the world can be accounted for by a single property, one might still wonder: does contemporary physical theory give us any reason to favor Property Monism over Property Pluralism? Many philosophers have defended claims that suggest that such evidence would be hard to come by, due to the fact that physics can only ever tell us about the causal/nomic/mathematical/structural features of the world, rather than the intrinsic qualities underneath this structure.<sup>36</sup> In the absence of any direct evidence about these intrinsic qualities, it seems like the structural complexity that the world exhibits could equally well be attributed to a single quality with many different aspects, or a plurality of wholly distinct qualities that somehow combine together.

This being said, perhaps we could look for indirect evidence. In particular, one might speculate that, given Property Monism, the fundamental laws of physics should be most perspicuously formulated by reference to the entire 'maximal' state of the world. In contrast, given Property Pluralism, we should expect the maximal state of the world to be a highly gerrymandered, 'merely conjunctive' state.

When we look to our best guesses for the fundamental laws of physics, this kind of evidence seems to point in favor of Property Monism. Perhaps the most basic equation in quantum mechanics is the Schrödinger equation:

$$i\hbar \frac{d}{dt} |\psi(t)\rangle = \hat{H} |\psi(t)\rangle$$

This law evolves the entire global state of the world at a time, represented by the wave function  $\psi(t)$ , into the future. The wave function is a central object of study in physics, and it isn't at all considered to be a merely gerrymandered object of study. This being said, it should be noted that  $\psi(t)$  doesn't represent a single global quality of the entire spatiotemporal world, it only represents the intrinsic state of the world at a single time. If the Schrödinger equation were truly fundamental, the Property Monist should say that the single distributional quality across space-time is represented by the *evolution* of the wave function, where for each time  $t$ ,  $\psi(t)$  represents a certain temporal aspect of the single distributional quality. Looking forward to more speculative areas of physics, there is the Wheeler-DeWitt equation, which is an important

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<sup>35</sup> See Cornell (2013, 2016) for further discussion on the higher-order properties of distributional properties.

<sup>36</sup> Contemporary Russellian Monists, following Russell (1927), endorse this sort of claim. Langton (2001, 2004) defends an interpretation of Kant in which we can never have knowledge of things 'in themselves', and Lewis (2008) also defends this conclusion. Many who identify as 'structural realists' in the philosophy of science are also sympathetic to this claim. For an overview of Structural Realism, see Ladyman (2016).

equation in the field of quantum gravity. In its most simple, compressed form, the equation reads:

$$\hat{H}(x)|\psi\rangle = 0$$

The interpretation of the symbols in this equation differs substantially from Schrödinger's equation, but the important thing to note is that this time the wave function  $\psi$  represents the global state of the entire spatiotemporal universe. Although the true theory of quantum gravity is still far off, an elegant equation like this one is exactly what one would expect, given Property Monism.

Although this kind of argument is suggestive, one also needs to account for how the wave function should be interpreted.<sup>37</sup> For example, a Bohmian formulation of quantum theory is hostile both to Property Monism and Object Monism, since its fundamental ontology includes particles. However, a major flaw of Bohmian Mechanics is that it can only account for a limited range of applications of quantum theory, such as the nonrelativistic quantum mechanics of particles.<sup>38</sup> The Everett interpretation, in contrast, is a much more flexible interpretation that more naturally fits into a Monist framework.<sup>39</sup>

Property Monism can also be motivated by the overall trajectory of physics. If one looks across the history of physics, much of the progress that has been made consists of *unifying* seemingly different properties into different 'aspects' of a single underlying property. In General Relativity, The Equivalence Principle unified inertial mass and gravitational mass, space and time were unified into space-time, and mass and energy were also unified as mass-energy. Electricity and magnetism were unified into electromagnetism in Maxwell's equations. Electromagnetic forces were further unified with the so-called 'weak' interactions in the electroweak theory, resulting in the 1979 Nobel Prize in Physics. Perhaps the holy grail of physics is to unify all four fundamental force fields - gravitation, electromagnetism, and the strong and weak nuclear forces - into one unified field theory. Insofar as the search for a unified field theory is successful, this can be seen as a scientific evidence for Property Monism.

Currently, the Standard Model of particle physics is far from being a unified field theory. There are many different kinds of elementary particles, each of which corresponds to a different kind of quantum field. These different kinds of fundamental quantum fields are naturally interpreted as supporting a version of Property Pluralism. Is this a decisive objection to Property Monism? It isn't, because we know that the Standard Model is incomplete. For example, it does not successfully account for gravity. Looking towards more speculative physics, superstring theories, which are further unified by M-theory, promise to unify all of the different kinds of elementary particles in the Standard Model, while also accounting for gravity.<sup>40</sup> While the physics behind

<sup>37</sup> For a survey of realist interpretations of the wave function, see Chen (2018).

<sup>38</sup> For a more on this, see Wallace (2020).

<sup>39</sup> For example, in describing the Everett interpretation, Wilson (2011) writes, 'At the fundamental level, the ontology is monistic – there is just one single structured object, the universal quantum state' (379). Also see Carroll and Singh (2018) for an especially minimal Everettian formulation of quantum mechanics that can be naturally interpreted as a kind of Property Monism. For more on how different interpretations of quantum mechanics relate to Monism, see Calosi (2018).

<sup>40</sup> One might worry that superstring theory is hostile towards Monism because it posits a plurality of indivisible 'strings'. See Baker (2015) for arguments against this kind of ontology for string theory. Insofar as Monism is more

these kinds of proposals remains speculative, one can think of Property Monism as making an empirical prediction: the plurality of elementary particles and quantum fields present in the Standard Model will ultimately be unified into a single global property of the universe.

## 7. Taking Stock

We have gone through many different argumentative steps. Let us step back and see why we have ended up with the theory we have.

Our first motivation was to adopt a One-Category Ontology. Our theory does exactly this. It collapses the distinction between object and property, and only posits a single enormously structured World Quality (that *just is* the World itself). In the words of Galen Strawson (2008), ‘the being of an object is literally identical with the being of its propertiedness’ (281). The distinction between objects and properties is a mere distinction of language.

Our second motivation was to remove undetectable and physically redundant structure from the world. We have accomplished this by getting rid of primitive individuals that ‘have’ properties, since physics is completely insensitive to *which* individuals underlie the qualities in the world.

Our third motivation was to explain the impossibility of bare particulars. On our theory, an object *just is* a kind of maximal quality. If there were no maximal quality, there would be no object. The notion of a bare particular is explained away as a confusion that results from distinguishing objects and properties.

Our fourth motivation was to deflate questions concerning the modal relationship between objects and properties. Could the *very same* individual have different qualities? Could the *very same* qualities be had by different individuals? These questions don’t make any sense if an object is identical to a quality. It makes no sense to fix an object and vary its qualities (or fix some quality and vary its object) if an object and its quality are one and the same.

Moreover, we have avoided positing primitively distinct entities (unlike non-extensional bundle theories), and we have accommodated symmetric and relational possibilities while avoiding *The Multi-Location Objection*, *The Modal Objection*, and *The Relational Possibilities Objection* (unlike extensional bundle theories). We have also gotten rid of the two most worrying elements of bundle theories in general, the ‘compresence’ relation and the existence of a single ‘bundle’ distinct from its qualities. By doing this, we have avoided *The Unity Problem*, *The Parsimony Problem*, and *The Relation Problem*.

Finally, the Monist theory that we have defended also explains the pervasive holism found in different anti-individualist theories, which accounts for *The Holist Objection*.

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naturally motivated by field theories, it should be noted that there are also superstring field theories that engage in a similar project of unification. See also Hořava (1999) for a proposal in which M-theory is an ordinary quantum field theory on 11-dimensional space-time.

Finally, it is worth noting that the package of views that I have defended here is not only *sufficient* to solve all of these problems, but each of its components is also *necessary* to solve these problems. For example, it is necessary that one is an Existence Monist rather than a Priority Monist, because many of these problems resurface with non-fundamental sub-worldly entities. Also, an individuals-based version of Existence Monism, according to which the only concrete individual is the World, does not solve the problems that we want to solve. It may solve *some* of the problems (e.g. when supplemented with Nominalism, it will have a one-category ontology), but there are still worries that come from *de re* modality (why did the World have *these* properties rather than some others?) and haecceitism (why were these global properties had by *this* World rather than some other World?). Lastly, it is also necessary to think of the World Quality as a *universal* rather than a trope, because the possibility of primitively distinct tropes raises many of the same problems as primitively distinct individuals.<sup>41</sup>

### 8. Metaphysical or Anti-Metaphysical?

In slogan form, I have defended an extreme version of the view that ‘All is One’.<sup>42</sup> This slogan typically gets associated with various mystical traditions, as well as other radical metaphysical views such as Neo-Hegelian Monistic Idealism.

In some respects, this association is unfortunate. You don’t have to be a fanatical metaphysician to find the Monism I have described attractive. In fact, perhaps the main motivation behind the view is *anti*-metaphysical. If this kind of metaphysical picture is correct, many metaphysical questions are bad questions. We shouldn’t be engaging in debates about whether Socrates could have been a poached egg, or about whether Statues are identical to Lumps, or about when multiple ‘little’ things compose a bigger thing. All of these questions involve presupposition errors if there is only the World Quality. However, rather than simply asserting that these questions are bad questions, I have tried to provide a positive, independently motivated, first-order picture of reality from which we can *derive* the fact that these are bad questions.<sup>43</sup>

Moreover, the rhetoric that is often used by those who are ‘anti-metaphysics’ – that we can ‘carve up’ the world whichever way we want to depending on our language – nicely coheres with the Monism I have defended.<sup>44</sup> The claim that ‘The World Just Is The Way It Is’ is just the claim

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<sup>41</sup> These points bring out some of the main differences between the view developed in this paper and the view developed by Campbell (1990). While Campbell also defends a version of the Monist bundle theory, his view involves tropes rather than universals. Campbell’s view is therefore vulnerable to versions of the arguments found in sections 2.2 and 2.4. Whether Campbell should be read as an Existence Monist or a Priority Monist turns on whether his ‘quasi-tropes’ should be considered as non-fundamental entities, or mere ‘aspects’ or (nominalistically construed) higher-order properties (151-155). Lastly, while my view involves a commitment to Property Monism, Campbell’s view does not. Still, even though there are important differences between the motivation and content of our views, I am sympathetic to much of Campbell’s discussion.

<sup>42</sup> While I have argued in favor of Monism both within and across ontological categories, I have not directly addressed the question of Monism versus Pluralism about ways of being (e.g. McDaniel 2017). For a recent argument against this kind of ontological pluralism, see Merricks (2017) and Builes (2019).

<sup>43</sup> This avoids the so-called ‘quotienting’ objection against common anti-metaphysical views, which is discussed in Sider (2020).

<sup>44</sup> For different versions of contemporary ‘anti-metaphysical’ views regarding ontology, see Hirsch (2011), Balaguer (2018), and Rayo (forthcoming)

that the world doesn't come 'pre-carved' into separate objects or ontological categories. Alternatively, the claim is just that *the world does not admit of ontological distinctions*. The ontological distinctions we regularly employ are ones that we impose on the world through our linguistic practices, not ones that are baked into reality itself.

At first glance, it seems absurd to suggest that scientifically-minded metaphysical skeptics should adopt a view that has been defended in various ways by ancient mystical traditions.<sup>45</sup> Scientifically-minded metaphysical skepticism seems to be the *exact opposite* of ancient mysticism! Looks can be deceiving though. Where there seems to be multiplicity, there may really be unity.<sup>46</sup>

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<sup>45</sup> See Albahari (2019b) for several 'mystical' views that have endorsed a kind of Monism.

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