

HIGH-FIDELITY METAPHYSICS: IDEOLOGICAL PARSIMONY IN THEORY CHOICE

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Abstract: Many metaphysicians utilize the virtue-driven methodology. According to this methodology, one theory is more worthy of endorsement than another insofar as it is more virtuous. In this paper, I show how a theory's overall virtue is shaped by its ideological parsimony – parsimony with respect to the terminology employed in stating the theory. I distinguish between a theory's truth and its fidelity ('joint-carvingness') and the corresponding epistemic and fidelic virtues. I argue that ideological parsimony is not an epistemic virtue but is a fidelic virtue. Insofar as metaphysicians value fidelity, then, ideological parsimony has an important role in theory choice.

1. Introduction

Define a theory's *ideology* as the stock of undefined terminology employed in stating the theory. Ideology is sometimes seen as a difference maker in theory choice; one theory is judged to be more worthy of endorsement because of some ideological difference between it and its rivals. One promising ideological difference involves *ideological parsimony*: when choosing between rival theories, choose the one that is more ideologically parsimonious.

Appeals to ideological parsimony are methodologically interesting and potentially powerful means of choosing between theories, especially in metaphysics. But I believe that as it stands such appeals are hazardously underdeveloped, so much so that it is altogether unclear what they amount to. To help fix this, I will address three questions: (1) what is ideological parsimony? (2) why do people care about it? (3) why should people care about it?

I begin in Section 2 by establishing some background assumptions. In Section 3, I introduce the virtue-driven methodology. I then distinguish between two varieties of ideological parsimony, built from two analogous varieties of ontological parsimony.

Next, in Section 4, I discuss some reasons to value ideological parsimony. I begin with the familiar distinction between pragmatic virtue and epistemic virtue. Both have been used to justify the value of ideological parsimony. While I believe that ideological parsimony is useful in a wide variety of contexts, I am especially interested in its applications to theory choice in metaphysics. For this reason I focus on the theoretical goals of metaphysicians and how ideological parsimony can help in the pursuit of those goals. I discuss some arguments in defense of the claim that ideological parsimony is an epistemic virtue, and I show how these arguments fail.

In Section 5, I offer a third, and thus far neglected, reason to value ideological parsimony. I claim that an ideologically parsimonious theory's ideology is more likely to match the objective features of the world; ideological parsimony is fidelity-conducive. Thus, while ideological parsimony is not an epistemic virtue, it is a *fidelic virtue*. In arguing for this claim, I argue for the independence of fidelic virtue and epistemic virtue. I suggest that their independence is rooted

in the fact that fidelity and truth are independent values and that both values are important to metaphysics. I do not take myself to have decisively established this further claim about the aims of metaphysics, but the resulting methodology is, in my estimation, worth exploring.

2. Background Assumptions

Here are some preliminary background assumptions of this paper. I don't think much of substance rests on these assumptions. I nevertheless state them here at the onset to avoid some common confusions that occur in discussions of ideology and ideological parsimony. These confusions are primarily terminological, though, so I will not do much – in this paper, anyway – to justify my assumptions or work through the alternatives.¹

First, I assume that a theory is a sort of linguistic entity. Following W.V.O. Quine, David Lewis, Theodore Sider, and others, I define a theory as a set of sentences – more specifically, as a set of sentences each member of which asserts something of the world.² Much of what we do as philosophers fails to make it into a theory understood in this way. Arguments against the existence of composite objects, for example, are not part of the theory of mereological nihilism. Rather, arguments and other tools of philosophy reside outside the theory as devices to persuade us to endorse the theory itself. I adopt the set-theoretic definition of a theory primarily because it seems to be the definition most often used by those who discuss theory choice in metaphysics. I am not presently interested in challenging this assumption, so I'll just follow their lead.

David Lewis once talked about 'total theory' and declared that to be the concern of metaphysicians (Lewis 1986, p. 4). I'll follow his lead. A total theory is a complete theory, one that is intended to provide a comprehensive picture of the world. A more specific theory is an abstraction from total theories. For example, the theory of mereological nihilism is the disjunction of all total theories that do not employ mereological ideology. Properly speaking, it is total theory that is the target of theory choice. But it is often helpful as a means of simplification to talk about the choice between specific (abstracted) theories.

I stipulate that a theory's ideology is the stock of undefined terminology employed in stating the theory. Others identify ideology differently. In contrast to my *linguistic* approach to ideology, others adopt a *semantic* approach.³ For them, a theory's ideology is a collection of intentional entities associated with the theory – for example, the primitive concepts employed in stating the theory. Above, I defined mereological nihilism as the disjunction of total theories that do not employ mereological ideology. On my linguistic approach to ideology, mereological nihilism is the disjunction of total theories that never use expressions like 'proper part' and 'overlap'. On the rival semantic approach to ideology, mereological nihilism is the disjunction of total theories that never employ concepts like *proper parthood* and *overlap*. Nothing in this paper turns on this particular issue about what ideology is. But for the sake of clarity I will stick to the linguistic approach.

One final note. For ease of exposition, I sometimes talk about the ideology used, employed, or required by a theory. With these phrases I mean to pick out those expressions that

appear within a theory but are not defined by that theory. For example, some mereological systems take 'part' as primitive and define 'proper part' as follows: $\ulcorner x \text{ is a proper part of } y \urcorner =_{df} \ulcorner x \text{ is a part of } y \text{ and } x \neq y \urcorner$. In some sense, these systems 'use' the expression 'proper part' when they say, e.g., 'The wheel is a proper part of the wagon.' But in another, more substantive sense, they do not. The appearance of defined ideology is an illusion. 'The wheel is a proper part of the wagon,' is just shorthand for 'The wheel is a part of the wagon and the wheel \neq the wagon.' A theory that does not define 'proper part' says something different with 'The wheel is a proper part of the wagon.' So, two theories can appear to use, employ, or require the same ideology when in fact they do not.

3. What is Ideological Parsimony?

There are many approaches someone might take to choosing a theory. They might try to determine which theory best reconciles their conflicting beliefs and intuitions. They might instead seek the theory that best matches the empirical data and is able to make novel predictions. Or perhaps they have a specific socio-political goal in mind and want to develop a theory that helps achieve that goal.

In this paper, I want to explore the viability of one particular approach to theory choice. I do not want to conclusively argue for its superiority over others. I am therefore not going to challenge any of the approaches I just mentioned, nor any other of the myriad means of choosing a theory. Rather, I am going to discuss some issues that arise within this one particular approach. (While this approach is used in a wide range of areas, it is especially prominent in metaphysics.)

Many, myself included, employ the *virtue-driven methodology*.⁴ On this approach, we develop competing theories that describe how the world is and then compare their relative merit. Their merit is measured by the extent to which they exhibit theoretical virtue; one theory is more worthy of endorsement than another insofar as it is more virtuous. A theory's overall virtue is measured as a function from specific, valuable features of the theory, the theoretical virtues. The interplay between the virtues is complicated and few endorse strict means for weighing them against each other. But, in practice, those who utilize the virtue-driven methodology try to compare theories with respect to a particular virtue. These comparisons are admittedly incomplete but nonetheless effective in generating reasons to favor one theory over another.

One feature that is sometimes used in this way is *ideological parsimony*. Ideological parsimony is used to justify a wide range of theories. Such justifications are especially prominent within metaphysics. For example, ideological parsimony is used to justify mereological nihilism:

In addition to eliminating composite objects from our ontology, nihilism also allows us to eliminate the extra-logical (or perhaps quasi-logical) notion of 'part' from our ideology, and this kind of ideological simplification is an epistemic improvement... This argument from ideological parsimony is, I think, more powerful than the argument that nihilism is ontologically parsimonious (Sider 2013, p. 239).

Ideological parsimony is also used to justify modal realism and mereological bundle theory.⁵ And it is used to justify unification in the sciences:

Today, anyone inquiring, whether in popular or professional literature, into the current status of fundamental physical theory is virtually guaranteed to be told the following tale. In the first part of this century, physicists had verified the existence of four basic physical forces: electromagnetism, gravity, the strong nuclear force, and the weak nuclear force. Passably accurate theories of these forces individually have been developed, but those theories do not yet demonstrate any deep connection among all of the forces. The aim of physics is now to produce theories which unify these forces, which show, ultimately, that there is at base only one fundamental force in the universe, which has come to display itself as if it were many different forces (Maudlin 1996, p. 129).⁶

But ideological parsimony is also used to justify normative theories. Though its use is not recognized as such, ideological parsimony is sometimes used in the development of rule-based theories, where much significance is placed on the extent to which the rules are simple. For example, it is used to justify certain versions of rule-consequentialism:

Just as more complicated and demanding moral codes have higher internalization costs, so do they have higher 'maintenance' and 'reinforcement' costs. We must not jump to the conclusion that an expected-value comparison of different codes will favour the very simplest and least demanding ones. But we should recognize that internalization and maintenance costs militate against more complicated and demanding codes (Hooker 2000, p. 79).

To be certain, not every sense in which a theory is simple is a sense in which that theory is ideologically parsimonious. The theory may be simple simply because it has fewer rules. But a theory may be simple because its rules avoid hedging. Hedged rules often (but not always) introduce exceptions that employ ideology beyond that required by simpler alternatives. For instance, a theory that contains a rule that requires me to fulfill my promises is, all else being equal, more ideologically parsimonious than a theory that contains a rule that requires me to fulfill my promises unless those promises were made under duress. A similar line of reasoning can be extended to epistemology. A theory that contains a rule that tells me to believe *x* on the basis of some testimony is, all else being equal, more ideologically parsimonious than a theory that contains a rule that tells me to believe *x* on the basis of some testimony unless there is an undercutting defeater to that testimony, such as evidence that the testimony comes from an unreliable source (which itself may mean that the source is trying to deceive me, or is emotionally unwell, or...), or direct perceptual evidence contrary to *x* (which itself is not defeated in some way), or...

Regardless of the precise theoretical context, there are two importantly different senses in which one theory can be said to be more ideologically parsimonious than another. To see the distinction, it is useful to first start with an analogous distinction applied to ontological parsimony.

Ontological parsimony is seen by many as a valuable feature for a theory to have. Yet ontological parsimony comes in at least two varieties. First, one theory can be ontologically parsimonious insofar as it posits a smaller number of entities. Consider two theories that explain the same physical phenomenon. The first theory explains the phenomenon by positing the existence of a single particle, while the second theory explains the phenomenon by positing

the existence of two particles. The first theory, in comparison to the second, has greater *quantitative ontological parsimony*.⁷ One theory can instead be ontologically parsimonious insofar as it posits fewer kinds of things. Loosely speaking, a nominalist theory avoids positing abstract objects and asserts that everything has a spatial or temporal location. A nominalist theory, in comparison to a rival theory that does posit abstract objects, posits (at least) one less kind of thing. It therefore has greater *qualitative ontological parsimony*.

Ideological parsimony also comes in at least two varieties.⁸ Let's say that any potential element of an ideology is a *bit of ideology*. Now consider two mereological theories. The first theory uses 'part' to provide explicit definitions for 'proper part' and 'overlap' as well as other mereological relations. The second theory does not, and leaves 'proper part' and 'overlap' undefined. Because the first theory employs fewer bits of ideology, it has greater *quantitative ideological parsimony*. Similarly, a theory that uses only the Sheffer stroke is more parsimonious than a theory that uses only disjunction and negation. One theory can instead be ideologically parsimonious insofar as it employs fewer *ideological kinds*. Admittedly, it's not at all obvious what an ideological kind is. For the purposes of this paper, though, I will talk about ideological kinds as if they are individuated by topic.⁹ For instance, there is an ideological kind corresponding to color. This kind contains all color predicates like 'green', 'chartreuse', and 'Pantone 448C', as well as relational predicates like 'is more saturated than'. Similarly, there is an ideological kind corresponding to mereology. Because mereological nihilism eschews all mereological terminology, when compared to rival theories it has greater *qualitative ideological parsimony*.¹⁰

4. Why Do People Care About Ideological Parsimony?

So why think that ideological parsimony – either the quantitative or the qualitative variety – is a valuable feature for a theory to have?

For any theoretical feature, people tend to cite one of two reasons to value it. Either that feature facilitates the pursuit of some pragmatic end, or that feature guides us toward the truth. Call such a feature a *pragmatic virtue* or an *epistemic virtue*, respectively.¹¹ These claims are conceptually distinct; to say that some feature is a pragmatic virtue is not to say that it is also an epistemic virtue, and *vice versa*.

Both reasons are cited in support of ideological parsimony. With respect to rule-consequentialism, some philosophers believe that a simple moral code is valuable because it minimizes the internalization and maintenance costs of the theory. Simpler ethical rules are easier to understand and are therefore easier to follow. Thus, ideological parsimony better enables people to do the right thing. Similarly, simpler epistemic rules are easier to understand and are therefore better guides for the formation of belief.¹² Perhaps there is a pragmatic end behind the drive toward a unified theory of physics. More plausibly, though, physicists want a unified theory because they think a unified theory is more likely to be true. Similarly, metaphysicians usually appeal to ideological parsimony because they think the ideologically parsimonious theory is more likely to be true:

The argument [for mereological nihilism] presupposes an epistemic principle: ideologically simpler theories are more likely to be true. The intuitive basis of the principle is the vague but compelling idea that simplicity is a guide to truth, together with the thought that eliminating primitive notions makes a theory structurally simpler (Sider 2013, p. 240).

There is much to be said about the role of ideological parsimony in ethics, epistemology, and science. But in the remainder of the paper I want to focus on how metaphysicians use ideological parsimony. This focus is definitely a case of navel-gazing – I am a metaphysician who uses ideological parsimony. Yet I think this focus serves as a proof of concept. Metaphysical methodology can be a model for others to tweak to their own purposes.

Typically, metaphysicians who adopt the virtue-driven methodology will privilege epistemic virtue over pragmatic virtue. They might judge a pragmatically virtuous theory to be better than a pragmatically vicious but otherwise equal theory. Yet they will always prefer the epistemically virtuous and pragmatically vicious theory to the epistemically vicious and pragmatically virtuous theory. This preference is driven by their goals. Ultimately, what many metaphysicians want is the correct picture of the world. It would be nice if this picture were also easily understood or useful in some way. But, so far as these metaphysicians are concerned, pragmatic considerations take a back seat to correctness. In this way, they take metaphysics to be a purely 'theoretical' project.¹³

Virtue-driven metaphysicians, insofar as they value ideological parsimony at all, tend to favor the qualitative variety. This favoritism makes sense given the goals suggested above. Correctness is their objective and it is unclear how quantitative ideological parsimony would help them achieve it. Consider, again, mereological ideology. Any mereological sentence is equivalent to some other mereological sentence that employs different terms. For instance, 'The wheel is a proper part of the wagon,' is equivalent to 'The wheel is a part of the wagon and the wheel is not identical to the wagon.' On the face of it, these two sentences seem to stand or fall together; either they are both correct or they are both incorrect. Consequently, those who are concerned with correctness seem to have little reason to value quantitative ideological parsimony.

I've claimed that those metaphysicians who appeal to ideological parsimony value the qualitative variety because they think a qualitatively ideologically parsimonious theory is more likely to be true, that it is an epistemic virtue. But should they? In the remainder of this section I will discuss two arguments that show that they should. While metaphysicians rarely offer explicit arguments for treating ideological parsimony as an epistemic virtue, I believe that they often have one of these two arguments in mind. Unfortunately, both arguments fail.

4.1 Ideological Parsimony is not an Epistemic Virtue

Here is one straightforward argument for the claim that ideological parsimony is an epistemic virtue. Suppose that the relative simplicity of a theory increases the likelihood that the theory is true. Ideological parsimony is a species of simplicity. Insofar as ideological parsimony

contributes to overall simplicity, then, ideological parsimony also increases the likelihood that the theory is true. Call this the *general simplicity argument*.¹⁴

The general simplicity argument fails because there are many forms of simplicity that fail to supply even a *prima facie* reason to believe that the theory is more likely to be true. For example, a low average word-length might make a theory more simple to pronounce but there is no reason whatsoever to believe that the theory is more likely to be true. Without further support, it would be question-begging to simply assume that ideological parsimony is not one of these irrelevant forms of simplicity.

A variant of the general simplicity argument targets *objective simplicity*, where objective simplicity is something like simplicity with regards to the picture of the world provided by the theory. But this variant of the argument fails for the same reason: some forms of objective simplicity fail to supply even a *prima facie* reason to believe that the theory is more likely to be true. Consider two equivalent theories T1 and T2. The only difference between these two theories is that T1 is closed under deduction and T2 is almost closed under deduction. By 'almost closed' I mean that the theory is closed under deduction but for the following exception: when the derived sentence is (i) 10^{1010} words long, and (ii) derived via adjunction (i.e. $\Gamma \phi, \psi \rightarrow \phi \wedge \psi \neg$). T1 is more simple than T2 because it has simpler logical properties – closure under deduction as opposed to closure under almost-deduction. T2 is more simple than T1 because T2 makes fewer claims about the world. Yet neither form of simplicity gives even a *prima facie* reason to believe the theory is more likely to be true than its rival.

Someone might challenge my example by claiming that it does not involve genuine objective simplicity and that the two theories paint pictures of the world that are in the relevant sense equally objectively simple. Okay. But on what account of objective simplicity is her challenge based? The proponent of the general simplicity argument owes an account of simplicity that avoids these counterexamples but still includes ideological simplicity. The vague notion of 'objective simplicity' is insufficient, for what does and does not constitute objective simplicity is very much an open question. Notice, though, that in bolstering her challenge the proponent thereby provides some reason to believe that ideological parsimony is positively correlated with truth. But that is just to say that there is some other reason to think that ideological parsimony is an epistemic virtue. The general simplicity argument, by itself, is dialectically inert.

Here's a more promising argument for the claim that ideological parsimony is an epistemic virtue. A theory should avoid saying too much about how the world is. Importantly, the less a theory says, the fewer opportunities it has to state a falsehood. An ideologically parsimonious theory says less, and so has fewer opportunities to state a falsehood. Between two theories that are otherwise comparable, the theory that has fewer opportunities to state a falsehood is more likely to be true. Therefore, the ideologically parsimonious theory is more likely to be true. Call this the *argument from expressive paucity*.

Uriah Kriegel discusses an analogous argument as it applies to ontological parsimony. He asks us to consider a 'metaphysically vacuum-wrapped' micro-sculpture crafted from five particles (Kriegel 2013, p. 20). Compare two rival theories, the first being more ontologically parsimonious than the second. According to the first theory, there are only five entities within

the wrap. According to its rival, there are thirty-one entities (the five particles as well as the various mereological combinations of particles). Because the first theory makes fewer existence claims, it seems like it is less exposed to error than the second theory. So, according to the argument, ontological parsimony is an epistemic virtue.

Kriegel objects to this argument by denying that the first theory makes fewer existence claims. He agrees that it makes fewer *positive* existence claims. But for every positive existence claim the second theory makes about composites the first theory makes the corresponding *negative* existence claim. For example, when the second theory says, 'There is a composite object that has five proper parts,' the first theory says, 'There is not a composite object that has five proper parts.' So the two theories make the same number of existence claims. The first theory, the ontologically parsimonious contender, is therefore not less prone to error. The argument from expressive paucity fails to justify the claim that ontological parsimony is an epistemic virtue.

Interestingly, the ideological version of the argument from expressive paucity avoids Kriegel's objection. Recall that a theory's ideology is the stock of undefined terminology employed in stating the theory. Mereological nihilism eschews all such mereological terminology. Thus, mereological nihilism cannot directly say anything, positive or negative, about parthood. Such a theory does not explicitly state that there is an object composed of the five metaphysically vacuum-wrapped particles. But it also does not explicitly state that there is not such an object. In a way it remains silent. As a consequence, an ideologically parsimonious theory is genuinely less capable of directly stating falsehoods than its less parsimonious rival. Perhaps, then, the argument succeeds?

It does not. Here's an objection that I find decisive. It turns on the tension between two competing alethic goals. The classic statement of this tension comes from William James:

There are two ways of looking at our duty in the matter of opinion – ways entirely different, and yet ways about whose difference the theory of knowledge seems hitherto to have shown very little concern. *We must know the truth; and we must avoid error* – these are our first and great commandments as would-be knowers; but they are not two ways of stating an identical commandment, they are two separable laws... [H]e who says, 'Better go without belief forever than believe a lie!' merely shows his own preponderant private horror of becoming a dupe (James 1992, pp. 468–469).

Following James, it would be misleading to suggest that the only thing that metaphysicians care about is avoiding falsehood. Metaphysicians also want to acquire true beliefs. The point carries over to theory choice. We want more than just a theory that fails to be false. If that were our only goal then we should refuse to endorse any theory whatsoever. What we want is a theory that fails to be false and is also interestingly true.

Unfortunately, these two alethic goals pull in opposite directions and there is no obvious way to weigh them relative to each other. Few would be inclined to totally disregard either goal. That is in large part why the theory that states *nothing* and the theory that states *everything* are rightly dismissed. But how many new truths is a falsehood worth?

I don't think that the answer to this question should be informed by any sort of practical considerations. My goal is to have as accurate a picture of the world as I am capable of having. I do not merely want a sketch drawing that is useful for getting from Point A to Point B. I want a

carefully painted portrait, one that is as rich as its subject. The trade-off between seeking truth and avoiding falsehood should be guided by this broader epistemic goal of accuracy.

Relative to the goal of accuracy, the argument from expressive paucity fails. My understanding of the world is clearly impoverished if I acquire false beliefs. But my understanding of the world is also impoverished if I needlessly remain agnostic. A theory that lacks certain bits of ideology will prevent me from adopting false beliefs. But it will also force me to be agnostic when I shouldn't be. It would be as if my picture of the world were only partially drawn. Ideological parsimony, then, does not in general contribute to a more accurate picture of the world.

The upshot is that ideological parsimony might help us in the pursuit of one of our alethic goals, but only at the expense of our pursuit of the other. Thus, it's a mistake to defend the value of ideological parsimony in alethic terms. (More generally, epistemic virtue should not be understood exclusively in terms of avoiding falsehood. It should be understood as promoting our broader alethic goals.) Thus, the argument from expressive paucity fails to show that ideological parsimony is an epistemic virtue.

5. Why Should (Some) People Care About Ideological Parsimony?

What we should care about partially depends on our goals. On the metaphysical project that I have in mind, one of our goals is the pursuit of alethic value. Another goal is the pursuit of a second value, one that is distinct from alethic value. It is the pursuit of this value that justifies the use of ideological parsimony in theory choice.

5.1 Ideological Externalism and Fidelity

Many metaphysicians are now of the opinion that ideology carries realist significance independently of its connection to ontology. Some (like Lewis (1983)) think that theories whose primitive predicates express natural properties are objectively better than theories whose primitive predicates express gerrymandered properties. Others (like Sider (2011)) think that theories are objectively better when their entire ideologies – including allegedly 'syncategorematic' terms like quantifiers and logical operators – reflect the metaphysical structure of the world. These metaphysicians are *ideological externalists*. According to ideological externalists, the quality of a theory's ideology ought to be determined primarily by the extent to which the terms correspond to the features of the world, whatever they may be.¹⁵

Call this externally-evaluated quality *fidelity*. Fidelity is a way to 'get things right' that is distinct from truth. A theory with a high degree of fidelity – a *fidelic* theory – has an ideology that accurately matches the objective features of the world. To use the popular metaphor, a theory with a high degree of fidelity 'carves nature at its joints'. Carving nature at its joints is important. As Sider puts it:

[I]magine a universe that is entirely full of fluid. A plane divides the universe into two halves, one in which the fluid is uniformly red, the other in which the fluid is uniformly blue... Now imagine a group of people who encounter this

universe, but accord no special status to the dividing blue-red plane. Instead of thinking of the universe as divided into the red and blue halves, they think of it as being divided in half by a different plane... And they do not use predicates for red and blue. Instead, they have a pair of predicates that they apply uniformly within the two regions separated by their dividing plane. These predicates... cut across the predicates 'red' and 'blue'. The regions to the left of the [dividing] line they call 'bred'; the regions to the right they call 'rue'. It is almost irresistible to describe these people as making a mistake. But they're not making a mistake about where the red and blue regions are, since they make no claims about red or blue. And they make no mistakes when they apply their own concepts. The regions that they call 'bred' are indeed bred, and the regions they call 'rue' are indeed rue. The problem is that they've got the wrong concepts. They're carving the world up incorrectly. By failing to think in terms of the red/blue dividing plane, they are missing something. Although their beliefs are true, those beliefs do not match the world's structure (Sider 2011, pp. 2–3).

The 'bred'/'rue' theory is deficient because its ideology fails to accurately match the objective features of the world. This ideological correspondence is not about the correspondence of truth. The theory is not false; it lacks fidelity.

Fidelity can extend beyond the terms that characterize physical reality. Compare, for instance, two ways of delineating which actions are morally permissible. The first way categorizes which actions are morally permissible by day of the week: which are morally permissible on Mondays, which are morally permissible on Tuesdays, and so on. The second way offers no such categorization. Plausibly, moral permissibility is not (directly) sensitive to the day of the week. Thus, a theory that delineates which actions are morally permissible (full stop) has a higher degree of fidelity than one that delineates which actions are morally permissible relative to a somewhat arbitrary seven-day cycle.

Fidelity is distinct from truth and the class of fidelic theories cuts across the class of true theories. Assume that the world has a natural property – *greenness* – which the predicate 'green' accurately matches. Define 'grue' as:

x is grue $\stackrel{df}{=} x$ is observed before 3000AD and is green, or x is not observed before 3000AD and is blue

A theory that employs the predicate 'green' can be fidelic because it uses the correct ideology but nonetheless false because it misdescribes the world – e.g. by describing Taylor Swift's lipstick as green. Likewise, a theory that employs the predicate 'grue' can be true but nonetheless lack fidelity because it has a gerrymandered ideology. Two competing theories might both be true but differ in their degree of fidelity. To illustrate: take a theory that truly describes all and only the green objects in the world as 'green'. We can generate a 'grue-ified' counterpart of that theory by matching each sentence of the first theory with a true sentence that employs 'grue'. The grue-ified theory truly describes all the green objects observed before 3000AD as grue and all the green objects *not* observed before 3000AD as not grue. Both theories are true, but the first theory has a higher degree of fidelity than its grue-ified counterpart.

Ideological externalists have given many reasons to value fidelity. I'll briefly sketch three such reasons below. To group these reasons under a slogan: 'Truth is not enough!'

First, truth seems too easy to acquire in the absence of further theoretical constraints. Many metaphysicians cite Putnam's model-theoretic argument in support of this claim.¹⁶ According to Putnam, under relatively plausible conditions any theory can come out true, no

matter what the world is like. The technical details of the argument go roughly like this. Any theory, in order to be appropriately judged true or false, needs to be interpreted. For our purposes, an interpretation amounts to a function that assigns extensions to all the non-logical expressions of the language – i.e. predicates and names. Now consider a theory that posits an infinite number of objects. No matter what relational constraints are placed on the theory, there will be an abundance of functions assigning extensions to predicates and names that ensure all sentences of the theory are true.

Many ideological externalists respond to the model-theoretic argument by imposing some additional constraint on interpretations. David Lewis, for example, restricts the range of interpretations to those that pick out the 'elite minority' of things and classes. Since most of the interpretations generated for Putnam's argument refer to classes that are 'miscellaneous, gerrymandered, [and] ill-demarcated,' in most cases there is no problem identifying the correct interpretation (Lewis 1984, p. 227). More generally, all else being equal a theory ought to be interpreted as having a high degree of fidelity.

Second, fidelity is a necessary precondition for the legitimate and straightforward use of induction. Consider Nelson Goodman (1955)'s riddle of induction. We observe a green emerald, and another, and another. Eventually, we decide to project our observations onto the whole class of emeralds and by induction conclude that all emeralds are green. This projection extends both spatially and temporally. That is, we conclude that all emeralds now, wherever they are in the world, are green *and* we conclude that all the emeralds we see in the future will be green. Recall the predicate 'grue'. Every emerald we have so far observed is grue as well as green. Following the intuitively plausible Nicod's principle, observations of *F*s that are *G*s provide evidence that all *F*s are *G*s. So it seems we are equally justified in generalizing for grue. But this cannot be the case. Our observations of emeralds do not justify the general claim about grue emeralds. In other words, generalizations involving 'green' seem more legitimate or *lawlike* than generalizations involving 'grue'.

Some ideological externalists explain this difference in legitimacy by appealing to fidelity. They restrict Nicod's principle to high-fidelity terminology. On the plausible assumption that 'green' has relatively high fidelity and 'grue' is a low-fidelity gerrymander, the ideological externalist's commitment to fidelity explains why we legitimately project 'green' but not 'grue'.¹⁷

Finally, a true theory without fidelity often fails to be explanatory. Suppose God told us there was a book, somewhere, in which was written the final theory of the world. Now suppose I introduce a predicate '*F*' that applies to an object just in case what is said in God's book is true. The resulting theory based on the single axiom ' $\forall xFx$ ' is no less true than what is written in God's book. But it fails to be explanatory. Similarly, I could cook up a mathematical function that successfully matches the past motions of the planets to the past fluctuations of the Dow Jones industrial average. But clearly this function is explanatorily worthless; the trading value of Mercury Systems Inc. isn't explained by the astronomical characteristics of the planet Mercury.¹⁸

The fact that a theory has a high degree of fidelity suggests that it offers genuine explanations. Metaphysicians sometimes say that joint-carving theories provide distinctively metaphysical explanations, where a metaphysical explanation is an objective and informative

explanation of how the world operates. But metaphysicians aren't the only ones who think genuine explanations are joint carving. Many scientists and philosophers of science often implicitly hold that theories ought to be stated in high-fidelity terminology.¹⁹ Similarly, Lange (2015) has argued that genuinely explanatory mathematical proofs incorporate natural mathematical properties.

Clearly much more can be said about these three reasons to value a theory's fidelity. My aim here is not to settle the matter once and for all. My aim is simply to motivate the importance of fidelity to the species of metaphysics that is my primary focus. Truth alone is unable to secure the descriptive goals of this project. Fidelity is indispensable.

Just as some theoretical feature might be a guide to truth, so too might it be a guide to fidelity. I call such a feature a *fidelic virtue*. As with pragmatic virtue before, to say that some feature is a fidelic virtue is not to say that it is also an epistemic virtue, and *vice versa*. It's an open question how the three types of virtue overlap, if at all.

Those virtue-driven metaphysicians who are ideological externalists should care about fidelic virtues. Whereas in the evaluation of rival theories they always privilege epistemic virtue over pragmatic virtue, they should not always privilege epistemic virtue over fidelic virtue. To do otherwise would be to sever the recommendations of the methodology from any justification that its recommendations are joint-carving. To put the point more substantively, ideological externalists who employ the virtue-driven methodology should, in some circumstances, prefer a fidelically virtuous theory with lower epistemic virtue to an epistemically virtuous theory with lower fidelic virtue. Anyone who has such a preference *takes fidelity seriously*.

Someone who takes fidelity seriously does take on a substantial commitment to fidelity in theory choice. But their commitment need not play a role in every choice they make. They may prefer the comparatively high-fidelity theory only in circumstances where both theories are highly likely to be true, or only in circumstances where the difference in epistemic virtue is small. That being said, someone who takes fidelity seriously may also take that commitment extra seriously. At the most extreme, they may be willing to endorse a theory they know to be false when they know whatever modification needed to make it true would produce a horrifically gerrymandered ideology.

Interestingly, no one seems to make this distinction between epistemic virtues and fidelic virtues. To be clear, many metaphysicians do recognize the distinction between truth and fidelity. But none of them extend this distinction to the theoretical virtues. Sider (2013) appeals to ideological simplicity because 'ideologically simpler theories are more likely to be true' (239). But nowhere does he explicitly state that a virtue might be indicative of truth but not fidelity, or vice versa. Lewis (1986) similarly distinguishes between a theory's truth and its fidelity but not between their corresponding virtues. The closest he gets is in a passage where he compares the benefits of set theory with those of his theory of modal realism. He says each is a 'paradise', and by believing in them we can 'improve the unity and economy of the theory that is our professional concern – total theory, the whole of what we take to be true.' Lewis understands these as genuine theoretical benefits. But he gives them an epistemic gloss: 'Why believe in a plurality of worlds? – Because the hypothesis is serviceable, *and that is a reason to think that it is true*' (pp. 3–4, emphasis mine).

Some metaphysicians may want to reframe what I've said about fidelity as being about a special kind of truth.²⁰ In fact, there are several distinct ways that they might do this. But I reject them. Attempts to 'reduce' fidelity to truth face several technical challenges. Furthermore, they seem to simply miss the point. Fidelity is an independent epistemic value and should be treated as such.

But fully justifying my rejection is beyond what I can hope to accomplish in this paper.²¹ Thankfully, I need not do so here. My main concern is to distinguish between epistemic virtues and fidelic virtues, and in so doing demonstrate not only that the virtues are conceptually distinct but that an argument in favor of one virtue is not automatically an argument in favor of the other. This point stands even if fidelity is a special kind of truth. On the fidelity approach that I favor, the independence of epistemic virtues and fidelic virtues is rooted in the independence of the values that they target. On the reductive approach, their independence is rooted in the differences between truth *simpliciter* and the special kind of truth represented by what I call fidelity. Suppose that we had good reason to think that some theoretical feature is indicative of that special kind of truth. This would not, by itself, license us to also think that the theoretical feature in question is indicative of the truth of the theory in general. Suppose, instead, that we had good reason to think that some theoretical feature is indicative of truth in general. This would supply at best a very weak reason to think that that feature is also indicative of the special kind of truth. Virtue-driven metaphysicians should acknowledge these substantive differences regardless of how they understand the relationship between truth and fidelity.

5.2 Ideological Parsimony is a Fidelic Virtue

Now I will argue that ideological parsimony is a fidelic virtue. To do so, I will adapt an argument that is sometimes given to support the claim that ideological parsimony is an epistemic virtue. Call this argument the *interaction argument*.²¹

The interaction argument's name comes from the theoretical interaction between ideology and ontology. Decreases in one can often be traded for increases in the other.²² Consider, for instance, how we might describe my office. One theory might truly say:

There is a chair in the office.

According to the neo-Quinean approach to meta-ontology, someone who endorses a theory containing the above sentence is ontologically committed to chairs.

But what if they want to remove chairs from their ontology? That's easy enough to do. Simply replace sentences like the above with sentences like:

There are simples arranged chair-wise in the office.

Such sentences don't quantify over tables. They do, however, require the use of plural quantification over simples. And in more complex cases they also require the use of perplural quantification. Simple ontology for complicated ideology.

What if they also want to remove simples from her ontology? Can do! Just say:

It is chair-ing in the office.

This sentence behaves like the English sentence 'It is raining in Wuhan.' By employing the non-referential 'it' and introducing as many 'it'-constructions as needed, someone can avoid ontological commitment to chairs and simples.

Now let's return to the interaction argument. Assume, as many metaphysicians do, that ontological parsimony is an epistemic virtue. Ontological parsimony is trivial without a counteracting constraint on ideology. For most any theory we can generate a more ontologically parsimonious rival by introducing some new and convoluted ideological tool. To avoid triviality, we should impose a counteracting constraint on ideology. Ideological parsimony thus serves as a necessary check against outrageous ontological reductions.

The interaction argument shows that ideological parsimony should be considered a theoretical virtue. Moreover, it shows that ideological parsimony cannot be just a pragmatic virtue (if it is a pragmatic virtue at all). Recall that metaphysics is a theoretical project; usefulness never outweighs correctness. If ideological parsimony were merely a pragmatic virtue, it would not be valuable enough to prevent the outrageous ontological reductions. That leaves us with two possibilities: either ideological parsimony should be considered an epistemic virtue, or it should be considered a fidelic virtue.

I think that the second possibility is more plausible. Earlier, I motivated the claim that metaphysicians should take fidelity seriously, meaning that in some circumstances they should prefer the theory with greater fidelic virtue. I claim that this is such a circumstance. If ideological parsimony were a fidelic virtue, it would be valuable enough to prevent the outrageous ontological reductions. Indeed, it makes more sense to understand ideological parsimony as fidelity-conducive rather than truth-conducive. I argued in subsection 3.1 that ideological parsimony does not help us meet our alethic goals. Ideological parsimony does push us toward a simpler picture of the world. But this simplicity is not with respect to truth and falsity. Rather, this simplicity is with respect to ideological correspondence.

This focus on ideological correspondence helps meet the challenge set out by the interaction argument. Here's how. The ideological externalist wants a theory of chairs that does more than simply state the truth; they want a theory that states the truth with a high degree of fidelity. 'It is chair-ing in my office,' is true. But primitive adverbial modifiers fail to accurately match the objective structure of the world. Whatever advantage the externalist gains by avoiding ontological commitment to chairs is offset by a comparable decrease in the fidelity of her theory.

I do not claim that the ontologically committed theory is guaranteed to have greater fidelity than the adverbial theory. I do, however, claim that it is more ideologically parsimonious than its adverbial rival. (Otherwise, the ideological externalist would have every reason to endorse the adverbial theory!) Here are two reasons to accept that claim. First, the ontologically committed theory gets by with quantifiers and predicates, which are ideological resources likely to be used elsewhere in theory-crafting. In contrast, its rival employs special-purpose adverbial modifiers that wouldn't appear elsewhere. So, a total theory that incorporates the adverbial

theory will have an ideology that spans a wider overall range of syntactic categories. Second, the adverbial theory requires much more machinery to fully describe the world. The ontologically committed theory uses the same ideological resources to describe an office no matter how many chairs it contains: the existential quantifier, the chair predicate, and the identity relation. In contrast, the adverbial theory requires unique modifiers for each possibility – 'It is chair-ing-two-ly in my office,' 'It is chair-ing-three-ly in my office,' etc. So, the adverbial theory requires an ever-increasing stock of adverbial modifiers whereas the ontologically committed theory gets by on the more efficient quantificational machinery. Thus, the adverbial theory is more ideologically complex.

For all I've said, it might very well be the case that primitive adverbial modifiers are the best means of formulating claims about chairs. (We could only know that on the basis of further metaphysical investigation.) But that's not because they offer an overall simpler picture of the world. We therefore avoid the slide into triviality threatened by the interaction argument.

6. Conclusion

In this paper I discussed how we might understand the role of ideological parsimony in theory choice. Those who think a theory's ideology should correspond to the objective features of the world ought to take the fidelity of that ideology seriously. Thus emerges a new respect in which we can evaluate theoretical virtue: fidelic virtue. Fidelic virtue is independent of epistemic virtue; some characteristics might be fidelity-conducive but not truth-conducive, and vice versa. Furthermore, virtue-driven metaphysicians should accept that ideological parsimony is a fidelic virtue. It is the most plausible means by which they can avoid the triviality threatened by the interaction between ideology and ontology.²³

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NOTES

1 For some justifications for these assumptions and an attempt to work through the alternatives, see Finocchiaro (2019a).

2 See, for example, Lewis (1986); Sider (2011); Quine (1948).

3 Examples of the semantic approach: Cameron (2012); Cowling (2013); Schaffer (2014). I am not, however, alone in my linguistic approach; see Bennett (2009); Sider (2011).

4 To see this methodology in action, see Lewis (1986); Paul (2012); Sider (2011).

5 See Lewis (1986, pp. 3–4) and Paul (2017, pp. 33–34), respectively

6 Cf. Sider (2011, pp. 16–17). Someone could interpret this passage as a concern for ontological parsimony. For instance, they could claim that such physicists want to minimize the number of 'force relations', and that 'force relations' are ontological, not ideological. Against such an interpretation I have no decisive argument to give here. But it does strike me as yet another unjustifiable case of the unfortunate tendency some philosophers have to read everything as ontological. For more on this tendency, see Finocchiaro (2019b), Sider (2011, pp. 111–114), and van Cleve (2016).

7 See Nolan (1997) for the full case. Note that parsimony is a comparative feature: both of these two theories have greater quantitative ontological parsimony than a theory that posits seventeen-million particles.

8 Much of what I say here follows Cowling (2013). Cameron (2012) also makes this distinction.

9 Some demarcate ideological kinds based on interdefinability. In Finocchiaro (2019c), though, I argue that the interdefinability approach is a nonstarter and offer a more complicated individuation of kinds based on their syntactic features. Thankfully, these issues regarding how ideological kinds should be individuated do not impact what I want to say in this paper.

10 Cf. Cowling (2013, pp. 3905–3907) and Smid (2017).

11 Here I adopt the terminology as it is standardly used. The use of the word 'epistemic' does suggest that epistemic virtues promote epistemic value more generally, be it understood as the acquisition of true belief, of knowledge, or of something else. But almost everyone who explicitly discusses the 'epistemic value' of parsimony focuses on its truth-conducivity (Daniel Nolan being a notable exception). As I argue in subsection 3.1, I think that this is a mistake.

12 Cf. Bradley (2019)

13 I understand that this characterization of 'metaphysicians' and their 'project' and 'goals' is controversial. (See Barnes (2014), especially for the potentially harmful effects of what I say here.) There are many who would self-identify as metaphysicians who do not think that metaphysics is a purely theoretical pursuit. In a sense I agree with them: I agree that there are many projects that have a right to be called metaphysics and that some of them deviate from what I described above. That being said, in this paper I want to focus on the project for which the ultimate objective is the correct picture of the world.

14 A version of this argument can be found in Sider (2013, pp. 239–243).

15 The terminology I use here comes from Finocchiaro (2019a). Contrast ideological externalists with ideological internalists, who think that the quality of a theory's ideology ought to be determined primarily with reference to features internal to the theory, or with reference to the historical, sociological, and psychological relations that hold between the theory and the theorizer – e.g. by being intelligible to the theorizer or employing terminology that has a history of successful projection.

16 While there are many ways to interpret the argument, I focus on the version found in Lewis (1984). For the original presentation, see Putnam (1977).

17 See Sider (2011, Section 3.3).

18 Compare to Lewis (1983, p. 367); Sider (2011, pp. 27–28).

19 Of course, no one is stating the point quite like I am. The general point is that there is a close connection between explanation and naturalness, objective similarity, etc. See, e.g., the species debate in philosophy of biology (Devitt 2011).

20 There is a parallel line of reasoning that claims that there is a perfectly viable pragmatics-based approach to fidelity. For reasons of space I cannot fully address that claim here. I'll just mention in passing that the pragmatics-based approach to fidelity struggles to explain why so many metaphysicians take fidelity seriously.

21 Cf. Cowling (2013, p. 3894). Cowling and I agree that ideological parsimony is a virtue on par with ontological parsimony. We disagree as to why that is so.

22 See Bennett (2009); van Inwagen (2008) for representative discussions.

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