

### **Three Comments on *Writing the Book of the World***

Trenton Merricks

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Theodore Sider's *Writing the Book of the World* is systematic, wide-ranging, intelligent, and interesting. It is sure to be influential, and deservedly so. Reading it and thinking about it have been a real pleasure. I am certain that I shall return to it again and again.

#### *1. Multifaceted Metaphysics*

Sider's book opens with this:

Metaphysics, at bottom, is about the fundamental structure of reality. Not about what's necessarily true. Not about what properties are essential. Not about conceptual analysis. Not about what there is. Structure. (1)<sup>1</sup>

But I reply that metaphysics is not—not even “at bottom”—about only one thing, and so not—not even “at bottom”—about only the fundamental structure of reality.

Consider the following claims: free actions cannot be causally determined; true propositions concerning future actions do not preclude freedom; the fundamental bearers of truth and falsity are abstract objects; some properties are universals; all properties are qualitative; persisting objects have temporal parts; a physical object can be wholly located in more than one place at the same time; no two physical objects can be entirely in the same place at the same time; composition is unrestricted; every truth has a truthmaker; propositions are sets of possible worlds; possibly, nothing exists; absences are causally efficacious; each human being is essentially not a chimpanzee.

It is false that every one of these claims, at bottom, is about structure. It is likewise false that there is some other single unified topic that every one of these claims

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<sup>1</sup> Unless otherwise noted, all page references are to Sider's *Writing the Book of the World* (Oxford: Clarendon Press, 2011).

is about. Yet they all are metaphysical claims. Maybe they are all metaphysical because their content is interrelated by “family resemblances.” Or maybe they count as metaphysical not only because of their content, but also in part because of historical accident. Or maybe there is some other explanation. Here we have a question about why we taxonomize philosophical claims as we do. But I do not think that much hangs on the answer to this mildly interesting question.

Sider thinks that a great deal hangs on the answer. For he thinks that metaphysics totters if its borders are arbitrary or result from highly disjunctive criteria. Thus he says:

The status of metaphysics itself hangs on [holding that structure is itself structural]. In their loftiest moments, metaphysicians think of themselves as engaged in a profoundly important and foundational intellectual enterprise. But if fundamentality is highly disjunctive, the field of metaphysics itself—which is delineated by its focus on fundamental questions—would be an arbitrarily demarcated one. (140)

I reply that even if metaphysics turned out to be a hodgepodge, it could still be profoundly important. Metaphysics would be important just so long as (enough of) the topics in the hodgepodge were themselves important.<sup>2</sup>

For example, consider the paradigmatically metaphysical topic of the nature of human persons: Are we animals? Or are we objects co-located with animals? Or are we immaterial objects? Or are we not objects at all, but instead mental events? Or do we not really exist?<sup>3</sup> I think that this topic is important. But I do not conclude that this topic is

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<sup>2</sup> Moreover, metaphysics would be foundational if (enough of) the topics in the hodgepodge were themselves foundational. If ‘foundational’ has its dictionary meaning, metaphysics’s being foundational does not require it to be about a single topic. (But perhaps Sider means by ‘foundational’ something like *having to do with structure*; taking ‘foundational’ in that way, metaphysics is foundational just in case it is about a single topic—namely, structure; but there is no worry if metaphysics ends up not being thus foundational.)

<sup>3</sup> Sider will say that the use of ‘really’ in ‘really exist’ signals that this is a question about whether we human persons are fundamental (see 8). But I disagree. This is because, for example, a philosopher might hold that we are animals and that animals are not fundamental, but it is false that that philosopher should

important as a result of the following reasoning: this topic is metaphysical; all metaphysical topics, at bottom, are about a single thing (such as structure) that is important; therefore, this topic is important. Rather, the nature of human persons strikes me as important all on its own. And so it goes for many other metaphysical topics.<sup>4</sup>

So I say, *contra* Sider, that metaphysics is not all about any one (non-disjunctive) thing, and so not all about the fundamental structure of reality. (I do think that *some* of metaphysics is about fundamentality; thus *Writing the Book of the World* counts as metaphysics.) And I deny, *contra* Sider, that metaphysics can be “a profoundly important and foundational intellectual enterprise” only if it is unified by being about a single (non-disjunctive) thing. Moreover, I think that Sider’s commitment to the idea that metaphysics, at bottom, is about the fundamental leads him astray in how he criticizes at least one metaphysical project. That project is “truthmaker theory.”

Truthmaker theorists think that every truth must be *made true* by something. Sider notes that one might attempt to formulate an account of fundamentality in terms of truthmaking. (This is not something that truthmaker theorists typically attempt, but it is perfectly reasonable for Sider—given the topic of his book—to explore such a formulation.) So Sider formulates an account of fundamentality in terms of truthmaking, just for the sake of argument, and then concludes that that account fails (157-161). I do not object to that conclusion, or to Sider’s argument for it.

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say that we do not *really* exist. (Unless everything is fundamental, some nonfundamental things really exist.)

<sup>4</sup> Sider might say, first, these topics are important only if they are substantive; second, substantive topics must be stated in joint carving terms; and, third, joint carving terms always involve structure. (See, for example, his remarks about substantivity and carving at reality’s joints on 78-79.) If he says all this, he might conclude that all these topics are important only if about structure. But this line of argument would “prove too much.” For presumably it would “prove” that any topic is important and substantive only if it is about structure, and so only if it is metaphysics, as Sider understands metaphysics. I agree that metaphysics is important and substantive, but I think that other fields are as well.

But I do object to Sider's claim that truthmaker theorists "smuggle in fundamental facts beyond those allowed by *their theory*" (157; emphasis added). I object because their theory—that is, truthmaker theory, as it is actually defended in the literature—does not disallow any "fundamental facts." For their theory—as opposed to the theory formulated by Sider for the sake of argument—is not a theory about "fundamental facts" at all.

Similarly, I object when Sider criticizes David Armstrong's proposed truthmakers for modal truths with:

The problem isn't that Armstrong's claims are *wrong*. It's rather that they are manifestly unexplanatory. The giving of truthmakers is the truthmaker theorist's proposed form of metaphysical explanation, but the entities Armstrong cites clearly do not help to explain modality. (160-161)

The giving of truthmakers is not *the truthmaker theorist's* proposed form of "metaphysical explanation." (For Sider, a "metaphysical explanation" is an explanation cast in fundamental terms.) Again, neither Armstrong nor (to the best of my knowledge) any other self-described truthmaker theorist claims that the goal of truthmaker theory is to give "metaphysical explanations" or to articulate the fundamental facts or to carve reality at the joints. Real truthmaker theorists are simply not engaged in Sider's project.<sup>5</sup>

But Sider's remarks quoted just above suggest that Sider takes truthmaker theorists to be engaged in his project. This suggests that, perhaps, Sider has been led astray by his commitment to the (false) idea that metaphysics, at bottom, is about the fundamental structure of reality. For perhaps Sider has reasoned as follows: Truthmaker theory is metaphysics; metaphysics, at bottom, is about the fundamental structure of

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<sup>5</sup> Armstrong (1997: 128-131) and others (e.g., John Bigelow 1988: 122) explicitly claim that a central motivation for truthmaker theory is accommodating the correspondence theory of truth (as opposed to, say, giving metaphysical explanations). For what it is worth, I disagree with Armstrong and these others, and object that the correspondence theory of truth does not really motivate truthmaker theory. See Merricks 2007: 14-16 and 36-37.

reality; therefore, truthmaker theory—in the literature, as it is actually defended—is about the fundamental structure of reality.

## 2. *Purity and Completeness*

Sider endorses *Purity*:

...*fundamental truths involve only fundamental notions*. When God was creating the world, she was not required to think in terms of nonfundamental notions like city, smile, or candy. (106)

He also endorses *Completeness*:

Completeness seems definitive of fundamentality. It would be a nonstarter to say that the fundamental consists solely of one electron: thus conceived the fundamental could not account for the vast complexity of the world we experience.

A preliminary formulation of completeness might run as follows: *every nonfundamental truth holds in virtue of some fundamental truth*. (105)

We have just seen Sider's "preliminary formulation" of Completeness. His official and final formulation is: "Every sentence that contains expressions that do not carve at the joints has a metaphysical semantics" (116). He tells us that a metaphysical semantics issues in theorems of the form: "Sentence S of L is true in L iff  $\phi$ ," adding the "requirement that  $\phi$  be phrased in purely joint-carving terms" (113). Thus Sider takes Completeness to imply that every sentence that contains expressions that do not carve at the joints has truth-conditions that are stated entirely in fundamental terms.<sup>6</sup>

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<sup>6</sup> I am simplifying slightly. What I have stated is Sider's metaphysical semantics for statements of "fact," rather than of "value." For value statements, Sider replaces "truth conditions" with "expression conditions." Thus Sider's *official* official position: "By a metaphysical semantics, I mean either a truth-condition, an expression-condition, or perhaps some other sort of semantic condition, that is assigned to that sentence for some metaphysical semantics for its language" (116). I shall be as careful about use and mention (e.g., about the truth of 'there are cities' versus there being cities) in this section as Sider is in his book.

Cities exist.<sup>7</sup> But suppose they did not. Then it would be true that cities do not exist. That truth would be nonfundamental. This is not because that truth involves quantification or negation. (At least, Sider says that negation and quantification are fundamental notions (108).) Rather, this is because that truth involves the notion of a city. And Sider says: "...even if negation and quantification are fundamental *notions*, the only fundamental *facts* involving those notions are pure—they involve those notions in combination only with other fundamental notions" (108). And he does not want "the domain of fundamental facts" to be "infected with facts about cities" (144).

So if there were no cities, the truth that there are no cities would be nonfundamental. Given Completeness, that nonfundamental truth would have to hold in virtue of a fundamental truth. Given Purity, that fundamental truth would have to involve only fundamental notions.

Sider tells us to "think of *C* as a 'metaphysical definition' of a city," where "*C* involves only fundamental notions" (108). His idea is that *C* is a complex predicate that describes what it is to be a city at the subatomic level in complete detail. He also says:

...given purity, such truths as "There exists a city" are nonfundamental, and hold in virtue of quantificational truths (perhaps of the form "There exists a *C*") that involve only fundamental notions. (108)

With the above in mind, I think that Sider would say that if there had been no cities, that there are no cities would have been true in virtue of the truth that there are no *C*s. And I think that Sider would—if there were no cities—take this to satisfy both Completeness and Purity with respect to the truth that there are no cities.

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<sup>7</sup> But please do not quote me on that. (My own view, which I shall set aside in this essay, is that cities do not exist; see Merricks, 2001).

Of course, there really are cities. There are not, however, any *fundamental cities*. (It just got weird. But stick with me.) A fundamental city is a fundamental entity. Let me add that a fundamental city has no parts; as a result, a fundamental city is *not* a *C*. So, at least arguably, a fundamental city is not really a city. But a fundamental city is felicitously called ‘a city’ because, I now add, it is *just like a city at the macroscopic level*. (Again, stick with me.)

It is true that there are no fundamental cities. But I shall argue that Sider cannot reconcile this truth with both Purity and Completeness. For starters, Sider cannot accommodate Purity and Completeness by saying that that there are no fundamental cities is true in virtue of its being true that there are no *Cs* that are fundamental. This is because fundamental cities are not supposed to be *Cs* of any sort, and so they are not supposed to be *Cs* that are fundamental, and so the non-existence of fundamental *Cs* is irrelevant to whether there are fundamental cities.

Fundamental cities are (presumably) impossible. So it is a necessary truth that there are no fundamental cities. Trivially, each truth necessitates each necessary truth. So each and every fundamental truth necessitates the truth that there are no fundamental cities. So, you might conclude, it is true that there are no fundamental cities in virtue of each and every fundamental truth.

But Sider will reject your conclusion. For he is explicit that there is more to the relevant sort of *in virtue of* than mere necessitation. When he first introduces the idea, he says:

Though I will be leaving ‘in virtue of’ at an intuitive level for now, I should say up front that it is *not* to be understood in terms of modality... Thus I reject [the following conception] of completeness: “All truths are necessitated by (or supervene on) a fundamental description of the world.” ...The modal gloss imposes no meaningful requirement of completeness for necessary truths... (105-106)

Satisfying Sider's notion of Completeness requires more than a fundamental truth that simply necessitates the necessary truth that there are no fundamental cities.

Another option: Sider might say that because fundamental cities would be fundamental, Purity allows it to be a fundamental truth that there are no fundamental cities. And if that there are no fundamental cities is *itself* a fundamental truth, it trivially satisfies Completeness.

Nevertheless, I do not think that Sider should be happy to number 'fundamental city' among the fundamental notions. To begin to see why, consider that Completeness and Purity have to be reconciled not only with the truth that there are no fundamental cities, but also with the truth that there is no fundamental candy, are no fundamental smiles, etc. So if Completeness and Purity lead us to take 'fundamental city' to be a fundamental notion, then they will also lead us to take fundamental analogues of every macroscopic entity and every macroscopic property to be fundamental as well.

Sider should reject this cornucopia of fundamentality. For Sider's catalogue of the fundamental strives to be sparse. He says:

My primitive notions are those of first-order quantification theory (with identity), plus a predicate  $\in$  for set-membership, plus predicates adequate for fundamental physics, plus the notion of structure. (292)

I am no expert in fundamental physics (see Ladyman and Ross *et al* 2009), but I am pretty sure that it does not require the predicate: 'being fundamental candy'.

Or look at it this way. Sider says: "The rock-bottom story of the world ought not to mention cityhood at all" (107). To the extent that this seems right, it also seems right that the rock-bottom story of the world ought not to mention fundamental cityhood, or fundamental candyness, or any other unholy offspring of fundamentality wedded to a



clearly nonfundamental notion. Again, Sider says: “When God created the world, she did not need to use ‘city’” (109). To the extent that this seems right, it also seems right that God did not need to use ‘fundamental city’ or ‘fundamental candy’, and so on.

So I say that Sider should not allow the fundamental to include fundamental cities (or fundamental candy or...). So Purity should preclude Sider from taking it to be a fundamental truth that there are no fundamental cities.

But wait! If Sider cannot allow the fundamental to include fundamental cities—that is, if Sider cannot allow *fundamental* cities to be fundamental—then he must think the very idea of a fundamental city is contradictory. With this in mind, you might offer the following response on his behalf: ‘There are no fundamental cities’ is true in virtue of the meaning of ‘fundamental’ and ‘city’; thus we have satisfied Completeness and Purity.

But Sider cannot endorse this response. He denies that sentences are true in virtue of the meaning of words (191-195).<sup>8</sup> Moreover, Sider would deny that a word’s having a given meaning is a fundamental fact. Thus even if the sentence ‘There are no fundamental cities’ were true in virtue of the meanings of ‘fundamental’ and ‘city’, this would not be a way in which the truth of that sentence holds in virtue of the fundamental.

Again, suppose that the very idea of a fundamental city is somehow contradictory. But now suppose you agree with Sider that sentences are not true in virtue of the meanings of words. You might then offer the following on Sider’s behalf: Because ‘fundamental city’ is contradictory, we know that fundamental cities are impossible;

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<sup>8</sup> Exception: I think that Sider would be happy to say that sentences about the meaning of a word—such as “The word ‘snow’ means snow”—are true partly in virtue of the meaning of that word (cf. 54).

knowing this, we should say that ‘There are no fundamental cities’ is true because fundamental cities are impossible; thus we have satisfied Completeness and Purity.

Sider cannot endorse this response. This is because, according to Sider, no modal notions—not even impossibility—are fundamental (see below). Moreover, even if impossibility were fundamental, the impossibility of a fundamental city would not itself be a fundamental fact unless (recall Purity) fundamental cities were themselves fundamental.

You might argue as follows: the idea of a fundamental city is so bizarre that ‘fundamental city’ is meaningless; so ‘There are no fundamental cities’ is meaningless; so ‘There are no fundamental cities’ is not true; so Completeness makes no demands with respect to ‘There are no fundamental cities’. But Sider cannot endorse your (misguided) argument. For Sider himself should insist that ‘There are no fundamental cities’ is true.

To begin to see why, consider that Sider thinks that ‘There is no fundamental modality’ is true (see below). Sider also endorses: ‘There are no fundamental mental properties’ (105). He also says that there is no fundamental tense (265). Fundamental modality, fundamental mental properties, fundamental tense, and fundamental cities are all—by Sider’s lights—equally impossible.<sup>9</sup> And fundamental modality, fundamental mental properties, fundamental tense, and fundamental cities are all—by Sider’s lights—equally the unholy offspring of fundamentality wedded to a nonfundamental notion. So because Sider thinks it is true that there is no fundamental modality and there are no

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<sup>9</sup> Sider thinks that fundamental metaphysics is not contingent and that a claim like ‘there is fundamental tense’ is possibly true only if actually true (274-278). Since Sider thinks that that claim is actually false, he should also think that that claim is necessarily false and that fundamental tense is impossible. Likewise for fundamental modality and fundamental mental properties.

fundamental mental properties and there is no fundamental tense, he should also say that ‘there are no fundamental cities’ is true.

Another attempt to satisfy Purity and Completeness begins with:

(X) Identity is fundamental and structure is fundamental and..., but nothing else is fundamental.

The ellipsis in (X) is meant to be filled in with a list of all that Sider takes to be fundamental. Since Sider takes fundamentality and negation and quantification all to be fundamental, Sider not only takes (X) to be true, but also to invoke only fundamental notions. Thus Purity has no objection to Sider’s saying that a certain nonfundamental truth is true in virtue of the truth of (X).

With all this in mind, consider this attempt to satisfy Completeness with respect to the truth that there are no fundamental cities: that truth holds in virtue of the truth of (X). I think Sider should reject this attempt. I think this because, as we saw above, Sider says that there is more to the relevant *in virtue of* relation than mere necessitation. (For example, Sider says that that relation “show[s] how what we say fits into fundamental reality” (112).) And while the truth of (X) necessitates the truth of that there are no fundamental cities, I say that the truth of (X) does not do the “more” that Sider requires here. I have three reasons for saying this, and so three reasons for saying that Sider cannot take the truth of (X) to satisfy Completeness with respect to the truth that there are no fundamental cities.

My first reason begins by noting that if the truth of that there are no fundamental cities holds in virtue of the truth of (X), then so too does the truth of that there is no fundamental candy, that there are no fundamental smiles, that there is no fundamental tense, and that there is no fundamental modality. (For the sake of argument and just for

the moment, let us agree with Sider that there is neither fundamental tense nor fundamental modality.) Each of these truths has a different subject matter. And so I do not see how each can be true *in virtue of* one and the same fundamental truth—unless there is nothing more to *in virtue of* than mere necessitation.

My second reason asks us to pretend that there are no (ordinary, nonfundamental) cities. Now consider:

(Y) Dogs exist and cats exist and..., but nothing else exists.

The ellipsis in (Y) is meant to be filled in with a list of all that exists. Still pretending that there are no (ordinary) cities, Sider would not say that that there are no cities is true in virtue of the truth of (Y). One reason he would not say this, of course, is that (Y) is not a fundamental fact. But another reason is that the truth of (Y) merely necessitates the truth of that there are no (ordinary) cities, whereas the relevant *in virtue of* relation is more than mere necessitation. As we saw above, Sider would instead say that the truth of that there are no (ordinary) cities holds in virtue of the truth of that there are no Cs. Of course, the truth of (X) purporting to ground the truth that there are no fundamental cities is no better than the truth of (Y) purporting to ground the truth that there are no (ordinary) cities.

There is a third reason that Sider cannot take the truth of (X) to satisfy Completeness with respect to the truth that there are no fundamental cities. For satisfying Completeness in this way would require that it is true that there are no fundamental cities *if and only if* (X) is true. (Recall the biconditional at the heart of Sider's "metaphysical semantics.") But I do not think that it is true that there are no fundamental cities *only if*

(X) is true. After all, suppose the fundamental is even more limited than (X) says it is. Then it turns out that (X) is false, but it is still true that there are no fundamental cities.

It is true that there are no fundamental cities. It would be silly—and perhaps even contradictory—to deny this obvious truth. So I do not deny this obvious truth. But I do deny that Sider can give us a fundamental truth that stands to this obvious truth in a way that is appropriately analogous to the way that the truth of that there are no *Cs* would stand to the truth of that there are no (ordinary) cities. That is, I object that the obvious truth that there are no fundamental cities cannot be squared with the overall view Sider defends, especially the combination of Completeness and Purity. Thus I object that the overall view that Sider defends is not correct.

The issues raised in this section lead to one other point I want to make about the overall view defended in Sider's book. To begin to understand this point, consider how Sider distinguishes *causal deflationists* from *causal nihilists*:

Each thinks that the ordinary English word 'cause' fails to carve at the joints. The casual deflationist thinks additionally that *no* causal locution carves at the joints. The causal nihilist, on the other hand, thinks that there is a joint-carving causal locution, 'causes\*', in terms of which it is true to say: "Nothing causes\* anything." (152)

'Causes\*' amounts to something like *causes and is fundamental*. By the lights of one who denies that causation carves at the joints—and so by the lights of the causal nihilist—'causes\*' is akin to 'fundamental city'. Thus one might object that the causal nihilist cannot reconcile the truth of 'Nothing causes\* anything' with Purity and Completeness. That would be to repeat the point already made. But I now want to raise a new point.

The new point turns on the fact that, according to Sider, the causal nihilist takes 'causes\*' to carve at the joints, to be (or perhaps express) a fundamental notion. (Sider

says that this is what differentiates the causal nihilist from the causal deflationist.) But the causal nihilist's taking 'cause\*' to be a fundamental notion is akin to the rest of us taking 'fundamental city' to be a fundamental notion. Since, as already argued above, Sider should not take 'fundamental city' to be a fundamental notion, I think that Sider should not allow the causal nihilist to take 'cause\*' to be a fundamental notion. All of this makes trouble for Sider's way of understanding causal nihilism. More generally, all of this makes trouble for how Sider distinguishes deflationists from nihilists in a variety of metaphysical domains.

### 3. *Modality*

Sider says: "At bottom, the world is an amodal place... This is not to say there is no modality. The book of the world does not mention cities, smiles, or candy either; yet there are cities, smiles, and candy" (266). Thus Sider's position is that modality is not fundamental. His argument for that position is exceedingly brief: "The good reason for opposing modal primitivism [that is, the view that modality is fundamental] is simply: ideological economy" (167).

Even given Sider's evident passion for economizing, he does on occasion resist its siren song (see, for example, 137-141).<sup>10</sup> This is because ideological economy is only one consideration when it comes to selecting a philosophical theory, and the most economical theory is not always the overall best. Because of this, Sider's remark about ideological economy should not be seen—not even among the ideologically stingy—as a refutation

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<sup>10</sup> For the sake of ideological economy, Sider rejects "primitive modality, law, cause, tense, logical consequence, higher-order quantification, and other such luxuries" (141). For its sake he embraces mereological nihilism (292n3). Sider's passion for parsimony brings to mind an exchange from *Lawrence of Arabia* (1962):

Jackson Bentley: What attracts you personally to the desert?  
T. E. Lawrence: It's clean.

of modal primitivism. That remark presents, at most, but one consideration against modal primitivism.

Sider's opposition to modal primitivism would be buttressed by a plausible reduction of modality. And Sider spends the bulk of a chapter articulating a reduction of modality. For example, Sider reduces *de dicto* necessity as follows: "To say that a proposition is necessary...is to say that the proposition is i) true; and ii) of a certain sort" (269). Sider thinks that those "certain sorts" include mathematical and logical propositions (272-274), propositions about fundamental metaphysics (274-278), and others. Thus Sider reduces a proposition  $p$ 's being necessarily true to:  $p$  is true-and-mathematical or true-and-logical or true-and-metaphysical or...

I shall object to Sider's disjunctive reduction of necessity. But I shall not object by way of counterexample. For Sider's general approach—as opposed to specific instances of that approach—is immune to counterexample. For suppose that Sider lists the "certain sorts." You then come up with an absolutely compelling example of a proposition that is necessarily true and not of a sort on the list. Sider need not abandon his overall approach to reducing necessity. Instead, he could just add a new sort to the list to accommodate that example. Or suppose you come up with an absolutely compelling example of a true proposition that is not necessarily true and is of a sort on the list. Sider could just expunge that sort from the list.

Sider's overall approach to reducing necessity seems to be immune to counterexample. But that does not mean that that approach is immune to objection. For example, any argument for irreducible modality (e.g., Merricks, 2007, ch. 5) amounts to

an objection to every reduction of necessity, and, as a result, to Sider's reduction of necessity. Moreover, I shall raise two objections to Sider's reduction in particular.

To begin to understand the first such objection, consider the debate in metaphysics over whether the laws of nature are necessary. Sider's reduction of modality implies that that debate turns on whether the reduction of *necessary truth* includes the following disjunct: true-and-a-law-of-nature. That is, Sider's reduction implies that that debate turns on whether propositions stating laws of nature are among the "certain sorts."

And Sider says:

What determines the "certain sort" of propositions? Nothing "metaphysically deep"...Perhaps the choice is arbitrary...Perhaps the choice reflects something important about the role 'necessary' plays in our conceptual lives...More likely, the truth is somewhere in between. (269)

Elsewhere, Sider says: "it's important that the 'certain sorts' of propositions...are not objectively distinguished, that no joint in reality encircles the class" of such propositions (270; see also 80).

So Sider's reduction of necessity implies that the question of whether the laws of nature are necessary or instead contingent is not a substantive question about the metaphysics of those laws. But many metaphysicians—including many who think that modality has some reduction or other—will think that this implication is false. And I think that this implication is false. Thus I object that Sider's reduction of necessity is false because it has a false implication. This is my first objection to Sider's particular reduction of necessity.

Sider proposes a reduction not merely of necessity, but of modality as a whole.

Sider describes one implication of his reduction of modality:

"[A]rguments from possibility"...begin by claiming that a certain proposition is possible... Next, the possibility is argued to be incompatible with a certain fundamental



proposition of metaphysics. So the fundamental proposition is possibly false. Finally, it is concluded that the fundamental proposition is actually false, since fundamental propositions of metaphysics are noncontingent. For example, I once argued that mereological nihilism... is actually false on the grounds that gunk is possible... And even arguments about weightier matters, such as David Chalmers's (1996) argument against materialism, fall in this category.

Such arguments are undermined by [my reduction of modality]... [This is because my reduction of modality] undermines our reason for accepting the possibility in question. Intuitively, this is because for propositions of fundamental metaphysics, possibility boils down to the actual falsity of rivals.

A proposition  $p$  of fundamental metaphysics typically has *rivals*: other propositions of fundamental metaphysics that are incompatible with  $p$ . (I have in mind competing accounts of the same subject matter. For example, rivals to materialism include dualism and idealism.) Now, the set of modal axioms is defined as containing, among other things, the propositions of fundamental metaphysics that are true, whatever those happen to be. And to say that a proposition is possible, on [my reduction of modality], is to say that that proposition's negation is *not* a logical consequence of the modal axioms. Thus, to say that the fundamental metaphysical proposition  $p$  is possible is to say that its negation is not a logical consequence of a set that is defined as containing its true rivals. Given this, there is next to no epistemic difference between asserting that  $p$  is possible and asserting that its rivals are false. (277-278)

Sider also says:

...it may be objected that surely *some* arguments from possibility are good. Imagine a physical theory that predicts bizarre results if there are exactly seventeen particles, but makes sensible predictions otherwise. Can we not object that the theory makes the wrong prediction with respect to those physically possible scenarios involving exactly seventeen particles? We could; but we could also object without bringing in modality. Since the theory makes an exception in the case of seventeen particles, it is surely needlessly complex, and is therefore less explanatory than an otherwise similar theory without the exception. I suspect that something similar is true generally: when there is a good argument from possibility, it can be recast in other terms—explanation, for instance. (278)

Sider's argument quoted at length above—the argument that concludes “there is next to no epistemic difference between asserting that  $p$  is possible and asserting that its rivals are false”—implies that no arguments from possibility are good. But in the passage just quoted he says: “when there is a good argument from possibility...” Sider seems to hold contradictory views here.

But I suspect that Sider does not really hold contradictory views here. I suspect that his idea is that some good arguments—arguments that are good for reasons having nothing to do with what is merely possible—can be misleadingly presented as if they were arguments from possibility. For example, in the passage just quoted, he seems to say that a good argument from objectionable complexity might be misleadingly presented as an argument from possibility. Thus I take Sider’s position to be that all arguments from possibility—that is, all arguments that really are arguments from possibility, as opposed to misleadingly presented as such—are defective.

Sider does not seem to think that apparent arguments from possibility are typically good arguments, misleadingly presented. Rather, he seems to think that, at least typically, apparent arguments from possibility really are arguments from possibility, and so really are defective. After all, as we saw in the passage above, Sider quickly rejects an argument of his own against nihilism simply on the grounds that it is an argument from possibility; the same goes for David Chalmers’s argument against materialism. And elsewhere, Sider immediately dismisses an argument against his view that there is “no infinite ideological descent” on the grounds that it is an argument from possibility (136).

As just noted, Sider does mention a few arguments from possibility. But arguments from possibility are more widespread than Sider indicates, and perhaps more widespread than Sider realizes. For consider that merely possible counterexamples amount to arguments from possibility. For example, Max Black (1952) famously describes a universe with two intrinsically indiscernible spheres that, as a result of their being the only things in that universe, are also extrinsically indiscernible; thus those spheres are indiscernible *simpliciter*, but—being *two* spheres—are not identical. Thus we

seem to have a merely possible counterexample to the thesis of the identity of indiscernibles. This leads some to conclude that that thesis is possibly false. They then conclude—since they assume that that thesis has its truth-value noncontingently—that that thesis is actually false. Thus we have an argument from possibility.

Sider explicitly rejects arguments from possibility with respect to “fundamental metaphysics.” But given Sider’s reason for rejecting arguments from possibility—a reason based on his reduction of modality—he should reject all arguments from possibility, regardless of whether those arguments target a metaphysical thesis or instead a thesis of a different sort. And, with this point in mind, note that merely possible counterexamples are not restricted to metaphysics. They are everywhere in philosophy.

One of the most famous is in epistemology: Edmund Gettier’s (1963) merely possible counterexamples to the claim that knowledge is justified true belief.<sup>11</sup> Gettier’s counterexamples lead us to conclude that that claim is possibly false. We then conclude—since we assume that that claim has its truth-value noncontingently—that that claim is actually false. This too is an argument from possibility.

Or consider Bernard Williams’s (1973, 98-99) famous objection to utilitarianism known as “Jim and the Indians.” If Jim kills one innocent South American Indian, Pedro will refrain from killing that Indian along with nineteen others; otherwise, Pedro kills all twenty. Many take Williams to have described a possible situation in which (a) it is wrong for Jim to kill the innocent person and (b) utilitarianism implies that it is right for Jim to kill the innocent person. So they conclude that there is a possible situation in

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<sup>11</sup> Actual counterexamples to the thesis that knowledge is justified true belief could be given, but the point here is that—so the standard epistemological literature has assumed all along—Gettier’s merely possible counterexamples are enough to refute that thesis. Actual counterexamples are not required.

which utilitarianism is false; that is, they conclude that utilitarianism is possibly false. They then conclude—since they assume that utilitarianism’s truth-value is noncontingent—that utilitarianism is actually false. Yet another argument from possibility.

I could go on and on listing well-known and influential arguments that involve merely possible counterexamples. So could you. Of course, not every allegedly possible counterexample is really possible. Nor is every possible alleged counterexample really a counterexample to the target theory. In part for these sorts of reasons, some arguments from possibility are defective. But they are not defective simply in virtue of invoking merely possible counterexamples.

More generally, arguments from possibility are not defective simply in virtue of being arguments from possibility. At least, that is what I say. (And since merely possible counterexamples are among the stock-in-trade of most philosophers, I think that most philosophers will agree with me.) Thus my second objection to Sider’s particular reduction of modality is that it is false because it has the following false implication: Arguments from possibility are always defective, and are defective simply in virtue of being arguments from possibility.\*

University of Virginia

*Department of Philosophy, Charlottesville, VA 22903, USA*

Merricks@virginia.edu

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