

Rosy with Sider? The Case of the Metaphysical Liar

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Abstract An important trend in contemporary metaphysics denies that the structure of natural language is an important datum for investigating fundamental structure. Ted Sider proceeds on this basis to propose a metaphysical semantics for natural language. Within this framework he argues that natural language and a fundamental, ‘jointcarving’, language could be subject to distinct logics. Developing an argument of Hartry Field’s, I show that Sider’s preferred option of fundamental classicality combined with non-fundamental non-classicality trivialises within the framework of Siderian metaphysical semantics. The position can be saved only by revising key claims about truth and metaphysical semantics. This has serious implications for methodology in the metaphysics of logic.

Keywords Metaphysics of logic · Paradox · Nonclassical logic · Dialetheism · Truth · Sider

A familiar thought in contemporary metaphysics is that ordinary thought and language concern themselves with matters other than the fundamental structure of reality. In order to uncover that structure, if – *contra* Kant – this is possible at all, serious philosophical work is required. In the course of the investigation ordinary language will require regimentation, locutions concerning to non-fundamental structure will be paraphrased away, and vocabulary which does not, in the familiar

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phrase, ‘carve at the joints’ will be eliminated.¹ But where does the exercise leave our ordinary everyday language?

Suppose, for instance, that there are, fundamentally, in the joint-carving sense of the quantifier, no composite objects. What remains of my assertion, outside the ontology room, that there is a cup of coffee on my desk? There are, fundamentally, in the joint-carving sense of ‘there are’, neither coffee cups nor tables. Are we, then, to adopt an error theory about my assertion? That suggestion surely deserves an incredulous stare if any philosophical thesis does.² Excepting sceptical scenarios, my belief that it is true that there is a cup of coffee on my desk – look, *there* it is – is far more justified than any conjunction of philosophical claims to the contrary implication. A better response is to claim that nonfundamental facts – such as that there is a cup of coffee on my desk – are to be explained in terms of fundamental facts, and that sentences in a language equipped to talk about nonfundamental facts can be supplied with a *metaphysical semantics*. This project is sketched by Theodore Sider.

What is a metaphysical semantics? For Sider it is a certain kind of theory of *meaning*, the explanatory aspirations of which are continuous at some points, discontinuous at others with those of (what he terms) linguistic semantics. Thus, for instance,

...just like the linguistic semanticist, she wants to help explain why English speakers will point to the salient horse, rather than the salient car, when they hear the sounds ‘Point to the horse!’; and like the linguistic semanticist, she will invoke concepts like truth and reference to do so. But she is not concerned to integrate her semantics with other linguistic or psychological theories. Thus she is not trying to integrate her semantics with syntactic theory, for example. [12, 113]

There is much here with which one could take issue. Can the issue of sentential meaning, in any useful sense of the word ‘meaning’, really be separated from the semantic contributions of subsentential expressions and so from the syntactic background of compositionality? Is there really an adequate answer to the question why a speaker points to a horse rather than a car which doesn’t, at least tacitly, appeal to the concept of understanding?³ These questions are work for elsewhere, however; I will proceed by taking Sider on his own terms and seeing where the path of metaphysical semantics leads.

¹The thought that regimentation is a necessary prerequisite to ontology finds classical expression in Quine, and has subsequently been defended by van Inwagen [10, 13]. More than any other metaphysician in recent decades, Armstrong stressed the independence of ontology from the analysis of natural language, in particular separating the debate about universals from questions about the semantic contribution of predicates [1, 2]. Sider brings these themes together in his work on metaphysics and fundamentality [12]. Note, however, that Sider’s disregard for natural language as a guide to metaphysics is more absolute than either Armstrong’s or Quine’s.

²The best-known denier of tables and coffee cups having a place in the furniture of the world, Peter van Inwagen, agrees here. See [13, 5].

³‘[The metaphysical semanticist] is free to assign semantic values that competent speakers would be incapable of recognising as such, for she is not trying to explain what a competent speaker knows when she understands her language’ [12, 111]. But if that is not what she is trying to explain, how is what she trying to explain *meaning*?

Sider allows that some parts of natural language might appropriately be supplied with an expressivist metaphysical semantics.⁴ Canonically, however, and clearly appropriately for cases such as my assertion about the coffee cup, a metaphysical semantics for a (portion of a) natural language \mathcal{L} takes the form of a truth theory, within which theorems of the following form are derivable:⁵

$$\text{Sentence } S \text{ of } \mathcal{L} \text{ is true in } \mathcal{L} \text{ iff } \phi \quad (\text{T})$$

Where ϕ is couched in perfectly joint-carving terms. We call ϕ the *metaphysical truth-condition* of S . \mathbf{T} itself is *not* couched in perfectly joint-carving terms, but is a sentence of mathematically enriched natural language with the resources to talk about sentences which are themselves composed of joint-carving expressions. We can, for the time being, imagine the range of ϕ as consisting of formulae of a language all of whose vocabulary items *do* carve at the joints.⁶ In due course, we will have reason to revise this understanding of ϕ , but Sider himself thinks of it as ranging over formulae of a joint-carving language, so we will join him in this at this point in the dialectic. Call one such joint-carving language \mathfrak{F} . The argument of the present paper is that the assumption that \mathfrak{F} is governed by classical logic reduces to triviality in combination with other suppositions made by Sider about metaphysical semantics; the result is a simple extension of a liar-style argument proposed by Hartry Field. This causes trouble for the project of metaphysical semantics in as much as it is committed to the classicality of a fundamental language capable of stating the metaphysical truth-conditions for a nonclassical language.

Say that a logic Λ governs a language \mathcal{G} iff for all sets of \mathcal{G} -sentences Γ and all \mathcal{G} -sentences ϕ ,⁷

$$\Gamma \models_{\Lambda} \phi \text{ iff either some } g \in \Gamma \text{ is false or } \phi \text{ is true.} \quad (\text{L})$$

We'll skip over here the possibility of 'draws', where more than one logic governs a given language, and the delicate question of how these ought to be adjudicated.⁸ Now, in order to get a handle on the *Metaphysical Liar*, observe that the logic governing \mathfrak{F} may be distinct from the logic governing \mathcal{L} . For Sider this is not an abstract possibility. Acknowledging the multiple pulls towards thinking that ordinary language is governed by a nonclassical logic, he nonetheless makes the case that,

⁴He envisages this for normative discourse, and issuing in theorems of the form \lceil Normative sentence S of \mathcal{L} , as uttered by speaker x , is expressively appropriate for x in \mathcal{L} iff $\phi(x)$ \rceil . [12, 113]

⁵The thought being presumably that a theory of meaning can be given through an account of truth-conditions. Note, however, that 'is true' here is a standard natural language truth predicate, no further account of which is offered [12, 113] Familiar Dummettian worries might be raised here; these become more urgent when we see the difficult decisions about a theory of truth for \mathcal{L} that are forced on the metaphysical semanticist as the present paper develops. [4, Ch. 3]

⁶For Sider, joint-carving is a matter of ideology as well as ontology. So not merely quantifiers and names, but also predicates and logical connectives can be thought of as joint-carving.

⁷I'll assume that each language is equipped with a proof system which is sound for the semantic consequence relation on the logic governing the language. This should be thought of, in the case of nonfundamental natural languages, as modelling pre-formal good deductive reasoning using that language.

⁸Actually draws are a *certainty*. Take some Λ which governs \mathcal{G} , now choose some Ξ which is a conservative extension of Λ with respect to the \mathcal{G} -wffs. Ξ governs \mathcal{G} . There's a strong temptation to say that draws of *this sort* are not a real issue, since there's no salient disagreement between the two logics.

...although classical logic is an inadequate model of all the complexities of natural language, it is adequate for the simpler language of mathematics and fundamental science. And it is also tempting to privilege the latter languages in some way. Logic is *ultimately* classical; it's just that natural languages hook up to reality in complex and indirect ways. [12, 231]

If \mathcal{L} is governed by a nonclassical logic, whilst \mathfrak{F} is governed classically, then the metaphysical truth-conditions for \mathcal{L} cannot be logical form preserving in every case. But this is surely acceptable within the context of the broader project of metaphysical semantics. The master thesis of that project is that the structure of natural language is not a sure guide to the fundamental structure of reality, and there is no reason to suppose that *logical* structure should be an exception.⁹

Sider considers the case where \mathcal{L} is governed by the logic arising from Kleene's strong matrix,¹⁰ K_3 . This provides the occasion for discussion of the Metaphysical Liar: a puzzle raised by Hartry Field [12, 237]. First, assume that \mathcal{L} has the resources to express its own metaphysical truth-conditions. This is entirely unproblematic; after all, the present paper, written in (augmented) English, has been talking about metaphysical truth conditions for nonfundamental languages, such as English. But now the reasoning to a puzzling conclusion is swift.

Sider makes the following assumptions, which suffice to generate a liar-style argument (apart from changes for the sake of notational consistency, the formalism is his, not mine¹¹):

- (1) That \mathcal{L} contains no non-factual sentences, and so every sentence of \mathcal{L} has a metaphysical truth condition.
- (2) That the vocabulary of \mathfrak{F} is a subset of the vocabulary of \mathcal{L} , and therefore that \mathcal{L} has the resources to express the metaphysical truth-conditions of its own sentences.¹² We write ' Cxy ' for ' x is a metaphysical truth-condition for y '. So for any sentence ϕ in \mathcal{L} there is $\phi_0 \in \mathcal{L}$, such that $\ulcorner C\langle\phi_0\rangle\langle\phi\rangle \urcorner$ is true in \mathcal{L} . The angular brackets here serve to indicate a name for the bracketed sentence in \mathcal{L} , generated by Gödel numbering or a similar technique.
- (3) Metaphysical truth-conditions are unique.¹³ Thus the following inference is valid: $Cxy \vdash Czy \rightarrow z = x$.
- (4) $C\langle\phi_0\rangle\langle\phi\rangle, \phi_0 \vdash \phi$

⁹Indeed, if natural language *quantifiers* carved at the joints, metaphysical semantics would be robbed of any ontological significance.

¹⁰For details see [8].

¹¹This deserves emphasis. Questions could be raised about definition – for instance, how should the turnstile be read? Myself, I find the exposition *at this level* clear enough – '⊢' says that we have a licence to infer the RHS from the LHS (and I would flesh this out as indicated by my remarks above about the availability of a proof system on the languages at issue). Discussions of the boundaries of metaphysics, logic, and language are sometimes in danger of getting so bogged down in microtechnicalities that they miss the basic *philosophical* problems with the set-up. Sufficient unto the day is the technical rigour thereof: on this point at least, Sider is absolutely correct.

¹²This is because the metaphysical truth condition of any given sentence in \mathcal{L} just *is* some sentence of \mathfrak{F} .

¹³I have varied that statement of uniqueness from the one Sider provides, for the sake of clarity. In a context where \mathcal{L} lacks a detachable conditional, (3) could be reformulated in purely rule form.

Not all of these assumptions are beyond doubt, although we will see in due course that the liar argument does not turn on any assumption undeserving of assent. We will discuss (1)-(4) after we have laid out that argument.

Now, let ' $\tau(y)$ ' abbreviate $\exists x(Cxy) \wedge \text{True}(x)$ – remember that \mathcal{L} is semantically closed, and by hypothesis governed by K_3 in response to the ensuing threat of paradox. Diagonalising on $\ulcorner \sim \tau(\phi) \urcorner$ yields:

$$\sim \tau(\langle M \rangle) \tag{M}$$

We now have a sentence of \mathcal{L} that says in effect that its own metaphysical truth condition is untrue: $M \vdash \sim \tau(\langle M \rangle)$ and $\sim \tau(\langle M \rangle) \vdash M$. By (1), M has a metaphysical truth condition; call this M_0 . As Sider understands (2), this yields that ' $C\langle M_0 \rangle \langle M \rangle$ ' is a sentence of \mathcal{L} . Recall that \mathfrak{F} is governed by classical logic, and so we can apply excluded middle to M_0 , since metaphysical truth-conditions are sentences in \mathfrak{F} : $(M_0 \vee \sim M_0)$. We reason by cases to M . From M_0 , the inference is immediate by (4). Meanwhile from $\sim M_0$ we apply *truth transparency* to get $\sim \text{True}(\langle M_0 \rangle)$. Since by (3) M has no metaphysical truth-condition other than M_0 , we get $\sim \tau(\langle M \rangle)$, from which follows M . This concludes the reasoning by cases. We now infer $\sim \tau(\langle M \rangle)$ from M , and $\sim \text{True}(M_0)$ follows, by definition of τ in K_3 . Truth transparency gives $\sim M_0$.

It follows therefore from assumptions (1)-(4) that both the sentence M and the negation of the metaphysical truth condition of M can be proved.¹⁴ This is not in itself a contradictory conclusion, which should give us reason to pause before talking of *paradox*. Nevertheless, the conclusion of the preceding paragraph is puzzling, and might be thought better avoided. A natural response is to revisit the assumptions made in order to reason to that conclusion.

The problem with this route away from puzzlement is that each assumption is either reasonable, or else can be weakened without damage to the argument. Let us examine them in turn. (1) looks entirely innocuous: suppose that \mathcal{L} does contain non-factual sentences; then we simply consider the language \mathcal{L}^* , which results from removing these sentences from \mathcal{L} and proceed as before. All that the argument requires is that sentences stating metaphysical truth-conditions, as well as sentences of the form $\ulcorner Cxy \urcorner$, and any sentences formed from these sentences by binding variables with quantifiers or affixing truth-functional connectives are factual, and therefore have metaphysical truth-conditions. But on the face of it, this is central to the project of metaphysical semantics. The situation with (2) is less straightforward. It is not obvious that a non-fundamental language should contain the resources to express all fundamental facts. The enterprise of metaphysical semantics finds motivation from the thought that the languages we use do not carve at the joints of reality. Yet the same thought might prompt us to consider the possibility that a language that *does* carve at the joints might contain resources that are alien to our language, in the sense that there is some sentence of the fundamental language that is not equivalent to any sentence in our language. Given that \mathcal{L} is supposed to be a language such as ours, then, (2) should be rejected. However, much less than (2) is needed for the argument.

¹⁴Although, following Sider, we've taken the background logic for the proof to be K_3 (the assumption being that this governs \mathcal{L} : a non-classical logic being adopted in response to the semantic paradoxes and vagueness), it will go through in a wide range of logics, including classical logic.

We do not need to assume that the whole vocabulary of \mathfrak{F} is included in \mathcal{L} . Instead we need only to be assured that \mathcal{L} contains the resources to name M 's metaphysical truth-conditions, M_0 , and to *use* those truth-conditions in reasoning by cases from $(M_0 \vee \sim M_0)$. But nothing in the argument turns on the *content* of M_0 ; in this respect the reasoning is entirely schematic. We can imagine the argument being presented as follows: let (M_0) name M 's metaphysical truth-condition, whatever it is. . . Now either M_0 or $\sim M_0$, either way. . . The fact that we don't have access to the deep logical structure of M_0 is neither here nor there, since that structure is at no point deployed in the proof.¹⁵ Such schematic reasoning can be carried out in a language such as our own, which is what \mathcal{L} is supposed to be, without exaggerated claims about that language containing all the resources necessary to describe the fundamental structure of reality. The same considerations suggest that the metavariable on the right-hand side of (T) be understood in a similarly schematic position: perhaps sense could be made of this by taking it to be bound by an implicit existential quantifier.¹⁶

Conditions (3) and (4) are beyond controversy,¹⁷ as immediate consequences of the theoretical role of metaphysical truth-conditions. We are then forced to confront the conclusion of the argument: if sentences have metaphysical truth-conditions, then there is a sentence such that both that sentence and the negation of its metaphysical truth-condition can be proved. How should we respond to this?

Sider himself sketches two possible avenues of response. One is the adoption of a 'Tarskian hierarchical approach to metaphysical truth-conditions': no language can speak of its own metaphysical truth conditions, instead ascent to what we might call a metaphysical meta-language is required in order to discuss the metaphysical truth conditions of the original language. In Sider's view, the usual objection to Tarskian approaches to the truth predicate, namely that we do not appear to track Tarskian levels when using 'is true' in English and its equivalents in other natural languages, does not carry over to the case of metaphysical truth conditions: '[it] is no objection to a Tarskian approach to the theoretical concept of metaphysical truth-conditions'. The thought seems to be that the theoretical nature of metaphysical truth-conditions makes a Tarskian hierarchy acceptable in this case, even though a parallel approach is unacceptable when applied to the pre-theoretical concept of truth. It certainly can be admitted that the concept of metaphysical truth-conditions is theoretical in a manner that the concept of truth is not: people who are not philosophers say things like 'everything the speaker said was true'; they do not say things like 'every sentence uttered by the speaker had true metaphysical truth-conditions'. However it is not clear, to me at least, that this difference carries over to justify a Tarskian approach

¹⁵Compare a routine kind of proof in (non-constructive) mathematics. Let G be Goldbach's Conjecture: now either G or $\sim G$. If $\sim G$, then let n be the smallest counterexample. . . We don't know which number n is, if indeed there is such a number, but that doesn't matter for the purpose of the proof. All that matters is the role that n plays if indeed it exists (and in this case, properties it possesses in virtue of that role: being even, greater than two and not being the sum of two primes).

¹⁶So: there *is* a metaphysical truth-condition for any declarative sentence of English. It's just that the metaphysical truth-condition isn't, in general, itself a sentence of English.

¹⁷In the sense that, if metaphysical semantics is going to get off the ground, then (3) and (4) need to be true. Plenty of people, of course, think that metaphysical semantics should remain on the tarmac, and therefore reject (3) and (4). But given that the present dialectic occupies, if only hypothetically, a framework accepting of metaphysical and semantics, the two assumptions should stand.

to metaphysical truth-conditions. After all, our theoretical discussion of metaphysical truth-conditions, no less that our workaday deployment of the truth predicate, is conducted in a natural language that displays no sign of sensitivity to hierarchical levels. On the contrary, metaphysical semantics, as described at the beginning of this paper and as executed by contemporary philosophers, is conducted in English and is intended to supply truth-conditions for *inter alia* the sentences of English. Problems exactly parallel to those accruing to the Tarskian¹⁸ hierarchical approach to the truth predicate arise. For example, consider two metaphysicians, each well disposed towards the other, simultaneously teaching classes on metaphysical semantics. Wanting to illustrate the function of these semantics whilst praising her colleague, Dr X says ‘every sentence Dr Y is uttering in her lecture has a true metaphysical truth-condition’. Similarly, Dr Y, with similar motives, says ‘every sentence Dr X is uttering in her lecture has a true metaphysical truth-condition’. There is no consistent way of assigning levels to these two sentences, but there does not appear to be anything out of order in either.

We will leave that issue there, since the Tarskian response to the liar argument is not Sider’s preferred one. Rather, he tentatively counsels living with the puzzlement. A metaphysical theory which postulates metaphysical truth-conditions for natural language sentences is to be accepted as the most explanatory theory, by the normal criteria of theory choice. The fact that a good explanatory theory has an anomalous case is simply to be accepted, perhaps as a small cost outweighed by the theory’s benefits [12, 238]. The burden of the rest of this paper is to argue that we cannot acquiesce in this manner, since the anomalous case forces an explicitly contradictory conclusion given an incredibly attractive auxiliary premise. This promises trouble for the advocate of metaphysical semantics.

The Field-Sider liar argument concludes with a puzzle, not a contradiction. However, inconsistency is waiting in the wings. \mathcal{L} is supposed to be a language with the resources to discuss, at least in outline, its own metaphysical semantics. So it follows that we should admit:

$$C\langle\phi\rangle\langle\psi\rangle, \text{True}(\psi) \vdash \phi \quad (\text{U})$$

Equation U allows us to infer from the truth of some sentences that the metaphysical truth-condition of that sentence obtains. An inference of this form has to be valid if metaphysical truth-conditions are deserving of the description.¹⁹ For

¹⁸At this point I minute a complaint about the use of ‘Tarskian’ in this kind of context: Tarski himself was explicit that his theory of truth was for *formal languages*, and was pessimistic about the prospects of a theory of truth for natural language. The literature is deaf to this complaint, however, hence my own use of the offending adjective.

¹⁹Objection: You’re not taking seriously enough the extent to which we’re talking about *metaphysical* truth-conditions. A principle along the lines of U is acceptable for the kind of theory of truth a linguistic semanticist might supply. But here we’re engaged in a different, more fundamental enquiry. Response: (1) The formulation of T gives ample motivation for thinking that Sider *should* accept (U). There is some room for negotiation if the language in which U is stated is governed by a logic for which *modus ponens* fails for the salient conditional (some paraconsistent logics would be candidates). But this just forces more urgently the questions: (2) What (we ask the objector) is the nature of this different, more fundamental enquiry? How does it relate to our antecedently given understanding of truth? What are the constraints on theory formation with respect to it? Absent an answer to these questions, the objector is simply stipulating away a difficulty.

suppose it was possible that a sentence ϕ be true without its metaphysical truth-condition obtaining. By (1), ϕ has such a truth-condition, and by (3) it is unique: call this truth condition t . Were ϕ true without t being true, there is no sense in which t is a truth-condition for ϕ , for this would involve the truth of ϕ being conditional on that of t .²⁰

Suppose moreover that the following inference is valid:

$$\phi \vdash \text{True}(\phi) \quad (\text{IN})$$

This is an enquotation principle, consonant with a disquotational or minimalist approach to truth. There may be all kinds of objections that can be made to it, but they are not ones which are available to the Siderian. Not only does the Field-Sider argument appeal to truth transparency, but also Sider's principal motivation for embracing nonfundamental nonclassicality is to allow a solution to semantic paradoxes arising from the naive T-schema. But (IN) just is a rule version of one direction of that schema.²¹

Now, recall that $C\langle M_0 \rangle \langle M \rangle$. We already have $\sim M_0$ and M by the Field-Sider argument. From M we use (T) and (IN) to conclude M_0 : contradiction. Note, moreover, that we have shown – by classically impeccable reasoning, and in a purely schematic fashion in the sense discussed earlier – that for some ϕ in \mathfrak{F} , $\lceil (\phi \wedge \sim \phi) \rceil$ obtains, for M_0 is the metaphysical truth-condition for a sentence in \mathcal{L} , and \mathfrak{F} expresses these conditions. But \mathfrak{F} is supposed to be governed by classical logic, which validates *ex contradictione quodlibet*, so triviality ensues.²²

Trivialism has to be rejected,²³ so something has to give. One option would be to follow the argument where it leads, and embrace the contradiction, accepting that both $\sim M_0$ and M_0 are true. In order to avoid trivialism, \mathfrak{F} will need to be governed by a paraconsistent logic.²⁴ We have then a form of dialetheism.²⁵ Indeed we have fundamental dialetheism – the doctrine that any true description of the fundamental structure of reality will be inconsistent. This will be thought by many too high a price to pay; the literature around dialetheism has encountered most resistance with respect to the claim that extra-linguistic reality is inconsistent,²⁶ with the position

²⁰Quite what ‘being conditional on’ involves here is a nice question. The thought is that t grounds the truth of ϕ . This is clearly a much more exacting condition than the truth of the material conditional $\lceil \phi \rightarrow t \rceil$, but it *at least* requires the truth of that conditional.

²¹Thanks to N for discussion here.

²²It has been suggested to me that this is a form of argument by *reductio*, not valid in K_3 and other nonclassical candidates for governing a nonfundamental language. To say this is to demonstrate a misunderstanding of the dialectic. The argument to M_0 certainly does go through, and that is all we need to argue to fundamental triviality (remember: \mathfrak{F} is governed classically). At this point I claim simply that this is unacceptable and should be rejected. I require for this purpose no connection between rejection and either negation or falsehood (much though I think those connections *should* be made, and might provide us with other reasons for wariness about the picture Sider presents).

²³Although, see [7] for confirmation of the thought that there is no position so outrageous that it has not been defended by at least one philosopher!

²⁴A logic is *paraconsistent* iff it does not validate *ex contradictione quodlibet*. For details and fine distinctions see [11].

²⁵The classic exposition is [9].

²⁶In the sense that it cannot be described truthfully without some contradiction being asserted.

that inconsistency is somehow a side effect of human language being a more moderate fallback.²⁷ An alternative would be to take \mathfrak{F} to be governed by a paracomplete logic,²⁸ thereby blocking the derivation of paradox by disallowing appeal to the law of excluded middle for \mathfrak{F} .

Sider's hope was to hold open the option of resolving the semantic paradoxes through recourse to a nonclassical logic, by allowing that a nonfundamental logic might be governed by a nonclassical logic whilst retaining classical logic for a fundamental language. The foregoing shows that this cannot be achieved given the account of metaphysical semantics on offer. This is unfortunate, since the motivation for this strategy was a good one. Classical logic is powerful, well-understood and successful for the purposes of mathematics and physical science, yet seems altogether less well-equipped as a candidate for governing natural languages. If it were possible to do duty to both insights, by allowing that natural language is governed nonclassically and a fundamental language is classical, whilst also adopting the simple and appealing account of metaphysical semantics, then genuine philosophical progress would have been made.

On the current account of metaphysical semantics, it is not to be. The choice that arises regarding nonfundamental languages confronted with the semantic paradoxes – *either* abandon classical logic, or else abandon theoretical commitments needed for the derivation of contradiction (i.e. some aspect of naive truth theory) – recurs when we consider a fundamental language. Either we need to concede that the fundamental language is governed by a paraconsistent, paracomplete, or otherwise nonclassical logic, or else we need to reject at least one of the assumptions (1)-(4), (IN) and (U) about the relationship between conditions statable in the fundamental language and sentences of a nonfundamental language for which a metaphysical semantics is being provided. When we examined these earlier, they seemed either impregnable or permissive of modification without injury to the liar argument.²⁹ But that was before the threat of triviality was introduced to the dialectic. This provides the strongest possible motivation for belief revision. A context in which our present beliefs trivialise, however antecedently justified they may have appeared, is one in which those beliefs should be subjected to renewed scrutiny and alteration. Is there, then, an assumption which could be revised?

In my view there is. Recall Sider's first assumption,

- (1) That \mathcal{L} contains no non-factual sentences, and so every sentence of \mathcal{L} has a metaphysical truth condition.

We noted that this was plausible in the light of the fact that, if a given language contains non-factual sentences, we can simply consider the maximal fragment of that language containing only factual sentences, and run the argument with this second

²⁷ See [3]. For defence of the stronger position see [9].

²⁸ A logic is *paracomplete* iff it does not validate unrestricted excluded middle. On this kind of approach to semantic paradoxes see [5].

²⁹ For the sake of completeness, one could abandon one or more structural rules for the nonfundamental logic, in the hope of blocking the derivation of paradox. I do not find this route attractive, but the possibility is there for those less squeamish than me. On this approach to paradoxes elsewhere see [14].

language as \mathcal{L} . All that is required of the new language is that sentences stating metaphysical truth-conditions, as well as sentences of the form $\lceil Cxy \rceil$, and any sentences formed from these sentences by binding variables with quantifiers or affixing truth-functional connectives are factual, and therefore have metaphysical truth-conditions. What is clearly right about this is that talk of metaphysical truth-conditions and of their relationship to sentences in natural language is intended as factual. When the metaphysical semanticist says things like ‘sentences containing modal vocabulary have metaphysical truth-conditions statable without use of modal vocabulary’, she is not merely clearing her throat or expressing an emotional disposition or attitude (‘Modality - boo!’). On the contrary she is asserting something which she takes to be *true*. To the extent that (1) articulates this it is beyond revision without fatal injury to the project of metaphysical semantics. However, this is not all that (1) says. As well as claiming that the salient class of sentences are factual it goes on to assert, on the basis of this former claim, that every such sentence has a metaphysical truth-condition.

The reasoning behind the inference from $\lceil \phi \text{ is factual} \rceil$ to $\lceil \phi \text{ has a metaphysical truth-condition} \rceil$ is clear enough. A natural thought is that factual sentences are introduced into conversation as candidates for truth,³⁰ and that the relevant theorem of a metaphysical semantic theory for a given sentence explains what the truth of that sentence would consist in. Here then is a picture of truth for a fundamental language: truth is what you get when the conditions assigned by the theory to a given sentence obtains. By affirming this picture the metaphysical semanticist can preserve the realist *credo* that a truth sentence is true in virtue of somehow conforming to the facts.³¹ The sentence need not, of course, describe the world in a way that makes apparent the fundamental structure of reality, but nonetheless there is some part of reality, specified by the semantic theory, in virtue of which the sentence is true.

It is tempting to enhance this picture of truth with a parallel treatment of falsity: falsity is what you get when the conditions assigned by the metaphysical semantics to a given sentence don’t obtain. Unfortunately for those who find this compelling, it is incompatible with pairing a nonclassical nonfundamental language with a classically behaved fundamental language, the holding open of which possibility is supposed to be a virtue of metaphysical semantics. The reasons for this are discussed briefly in an [Appendix](#). Because of this problem no doubt Sider allows that the negation of a sentence may have a metaphysical truth-condition of its own; the truth of $\lceil \neg\phi \rceil$ may make distinct demands on reality, over and above that the demands made by the truth of ϕ are not satisfied. Questions remain about whether a satisfactory philosophical account can be offered of the relationship between truth and falsity³² given the failure

³⁰Or for *expressing* truths, if one takes entities other than sentences to be the primary bearers of truth.

³¹Thus stated this is basically Wright’s *correspondence platitude* [15, 25]. Since the metaphysical semanticist wants to claim that fundamental reality *explains* nonfundamental truth, however, one might be tempted to strengthen it to a version of a principle Wright discusses from Horwich, whereby a sentence is true *because* its truth condition obtains [15, 26] [6, Ch. 7].

³²The point here is that even if truth and falsity are not jointly exhaustive and pairwise exclusive, they surely must be *some* close conceptual connection between them. They are not simply two distinct properties which sentences might happen to possess.

to treat falsity as simply the absence of truth, but let us allow Sider that move and return our attention to (1).

It would be nice to be able to do unrestricted justice to the natural picture of truth and keep (1). Unfortunately, we need to restore consistency to metaphysical semantics, and the principle looks more dispensable than the others. That said rejection of (1) should also cause us to modify (2) further than we have already had cause to: we do not want to commit ourselves to talking, even schematically, about the metaphysical truth-conditions of sentences which lack metaphysical truth-conditions. If we wish, (1) can be replaced with the harmless:

(1*) That \mathcal{L} contains no non-factual sentences

I conjecture, furthermore that we would be safe with:

(1**) That \mathcal{L} contains no non-factual sentences, and that every sentence in \mathcal{L} not containing semantic vocabulary has a metaphysical truth-condition.

If we want to think that the need for nonclassical logic arises not simply from semantic paradox (including *metaphysically* semantic paradox³³), but also from considerations about vagueness, the open future, set theory, or whatever else, (1**) could be expanded to accommodate this. The question remains whether the restriction in (1**) can be motivated. A quick response that is not without force is that the avoidance of triviality is as good a motivation as one could wish for, and given that classical responses to semantic paradoxes are unpersuasive, this excellent motivation combines with our desire for a nonclassical solution to force revision of (1). However, there is a more exacting sense to the initial question: what we want is not simply a *reason* for replacing (1) with (1**); we undoubtedly have that. Instead it would be good to have a compelling metaphysical picture on which this revision appears natural, rather than as simply theoretical back-peddalling in the face of paradox. Is there such a picture to be had?

Here is one attempt: semantic notions are not fundamental. Rather they arise from our attempts to understand the world in which we exist, the languages we use to describe it, and the relationship between the two. In well-behaved cases we can tell a systematic story about how the world is such that certain sentences are true. A Sider-style metaphysical semantics is a case in point, and for the well-behaved bits of assertoric language, those whose truth-value obtains in virtue of a systematic tracking of fundamental reality by language, we might suppose that something along the lines of (1) is correct. We might, further, imagine this situation to obtain for paradigm cases such as the fragments of natural languages used in the natural sciences and mathematics. That there are non well-behaved cases is a by-product of our semantic concepts. An example is ‘the metaphysical truth-condition of this sentence is false’. That this sentence doesn’t track the world outside language is less obvious than in the more familiar cases of standard semantic paradoxes. ‘This sentence is false’, for example, is quite obviously about no reality external to the sentence itself, and contingent

³³That the extension of ‘semantic’ includes that of ‘metaphysically semantic’ should now be assumed in what follows.

liar sentences, even though they are about things other than themselves (namely other sentences) are concerned solely with semantic aspects of language. They are, in Beall's phrase, 'spandrels of truth', curiosities which arise automatically when we equip our language with semantic vocabulary.

By contrast it might be thought that 'the metaphysical truth-condition of this sentence is false' is about the fundamental building blocks of reality, whatever it is that a fundamental language talks about. This is the import of it talking about its own metaphysical truth-condition. Here we should stand firm: the assumption that this sentence tracks fundamental reality has consequences we cannot accept, and should be rejected.³⁴ The spandrels of metaphysical semantics are more subtle than those of common-or-garden truth, but they are there nonetheless. It is useful to be able to talk about metaphysical truth-conditions: Sider's book wouldn't have got off the ground were we not able to enhance our language with this ability. But once we have enhanced our language in this way, pathological sentences arise which are cloaked in the illusion of traction on fundamental reality. The truth is that the metaphysical liar *cannot* track fundamental reality in a systematic way (and this is what having a metaphysical truth-condition involves), and so it does not. Of course, all the facts about relevant tokenings of the sentence, concerning marks on paper, thoughts in minds and bits in RAM chips, will obtain in virtue of circumstances describable in a fundamental language. But this is very different from the sentence *type* having a metaphysical truth-condition.

But, it might well be objected, surely we want to say *something* about how sentences containing metaphysically semantic vocabulary relate to fundamental reality.³⁵ This has to be right: after all both Sider's book and the present paper contain English sentences which talk about truth and its relation to metaphysical truth-conditions. If there is no sense in which those sentences represent the world as being a certain way, then talk of metaphysical semantics is unintelligible. But this desideratum would be satisfied by Sider's lights just in virtue of the semantic features of the English sentences in which the metaphysical semantics is articulated (recall that for Sider metaphysical semantics is distinct from linguistic semantics³⁶). Expressions of a nonfundamental language can denote, and sentences of the language be used to make true claims about, aspects of fundamental reality. It is just that they do not do so *in virtue* of fundamental reality. This might well sound opaque, and perhaps it is ultimately unsustainable, but what is on offer here is a version of

³⁴We should not be misled by the occurrence of the definite description 'the metaphysical truth-condition of this sentence' in the sentence to attempt Russelling the issue away. The definite description is quite incidental, and (as we did above) can use Godelisation techniques to get a metaphysical liar sentence that doesn't include one.

³⁵Thanks to a referee for pressing this point.

³⁶As will be clear from what I have written above, I am sceptical of this distinction, and so think that the need to appeal to it counts against the proposed rescue of metaphysical semantics. It seems to me that if a Siderian wants to avail herself of this rescue package, she either needs to explicate the distinction or modify it. My own sense is that the latter route is preferable – the Siderian should drop the claim that there is any sense in which a metaphysical semantics is a theory of meaning. But if this is right, then an account is owed of the relationship between truth and meaning, and between both and the use of language.

alethic pluralism: ‘well-behaved’ sentences of natural language are candidates for a truth-property which may be analysed in terms of the existence of a metaphysical truth-maker, whereas sentences containing metaphysically semantic vocabulary are potential bearers of a minimalist truth property. The challenge for the metaphysical semanticist taking this route is whether she can answer the complaint that the view unacceptably detaches the truth property for metaphysically semantic sentences from the function of those sentences in representing fundamental reality. My advice to her would be to insist that the question doesn’t take the minimalist nature of the operative truth property seriously; my concern would be that this doesn’t take the connection between minimalism about truth and minimalism about reference seriously enough – is this rescue move self-undermining, in that it robs the Siderian of the capacity to talk *about* the fundamental in a manner susceptible to a realist construal?

Let that debate be resolved as it will. The picture just sketched is an example of how someone sympathetic to the thought that nonclassicality is needed solely because of semantic paradoxes – a thought to which I am sympathetic without being a signed-up adherent – might flesh out the revision of (1). Those with other motivations for adopting a nonclassical logic to govern a nonfundamental language within a framework of metaphysical semantics will draw things differently, but the desideratum is clear: explain why, for a given class of sentences demanding non-classical treatment, these sentences are such that they do not track fundamental reality, and so why they – if true – possess a truth property distinct from that possessed by true sentences with a metaphysical truth-condition.³⁷

The metaphysical liar argument is more bothersome than Sider allows. It can be turned into a metaphysical liar *paradox*. As we’ve seen, there are two routes back from the precipice of triviality which cohere with the original aspirations of metaphysical semantics. We can accept that logic is *fundamentally* non-classical. For whatever reason, good or bad, there tends to be some antipathy to this suggestion (how can there be contradictions, or vagueness, or indeterminacy *in reality?*), hence Sider’s original project. So perhaps we might instead insist that logic is fundamentally classical, and tweak the set-up of our metaphysical semantics to avoid paradox. Both of the options have been laid out here. The metaphysical semanticist must affirm the disjunction of the options. I take it that disjunction is sufficiently classical in its behaviour for her to be committed thereby to the truth of one of the disjuncts.

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³⁷ Depending on one’s metaphysics of properties it might be suggested that both sentences share a property *being true simpliciter*. This might be right. The salient point is that they possess distinct determinate truth properties.

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Appendix: Falsehood as non-obtaining of metaphysical truth-conditions

We show that the picture wherein truth for a sentence in \mathcal{L} consists in the obtaining, falsehood in the non-obtaining of its metaphysical truth-condition forces the classical behaviour of negation in \mathcal{L} . Where $\phi_{\mathcal{L}}$ is nonfundamental and $\psi_{\mathfrak{F}}$ its metaphysical truth condition.

Exhaustivity Either $\phi_{\mathcal{L}}$ is true or $\phi_{\mathcal{L}}$ is false.

Proof First suppose that $\psi_{\mathfrak{F}}$. Then, since a sentence in \mathcal{L} is true if its metaphysical truth-condition obtains, $\phi_{\mathcal{L}}$ is true. Now, suppose $\sim \psi_{\mathfrak{F}}$. Then, since a sentence in \mathcal{L} is false if its metaphysical truth-condition does not obtain, $\phi_{\mathcal{L}}$ is false. But excluded middle holds for \mathfrak{F} , so by disjunction introduction on either case, plus dilemma on LEM, we are done. \square

Exclusivity $\phi_{\mathcal{L}}$ is true iff it is not false.

Proof L-R Assume $\phi_{\mathcal{L}}$ is true, so $\psi_{\mathfrak{F}}$. But \mathfrak{F} validates every instance of $\sim (\gamma \wedge \sim \gamma)$, so $\sim \psi_{\mathfrak{F}}$, so $\phi_{\mathcal{L}}$ is not false. R-L Since $\phi_{\mathcal{L}}$ is true, $\psi_{\mathfrak{F}}$. Invocation of $\sim (\gamma \wedge \sim \gamma)$ gets us the desired result as before. \square

Note that in both proofs we are using the fact that negation in \mathfrak{F} behaves classically. A dialetheist, for instance, could object to the proof of exclusivity, not on the basis that $\sim (\gamma \wedge \sim \gamma)$ is invoked (after all, every instance of this is a logical truth in **LP**), but on the basis that the falsity of $\sim \psi_{\mathfrak{F}}$, which the dialetheist agrees is equivalent to the truth of its negation, is incompatible with its truth. However, we are currently considering a strategy in which \mathfrak{F} is governed classically, even though \mathcal{L} is not, so by hypothesis a dialetheist ought to accept classical reasoning *as applied to metaphysical truth-conditions*. What has gone wrong?

The problem is this, that the operative picture of truth, combined with the classical nature of metaphysical truth-conditions, enforces classical behaviour of negation in the language for which metaphysical truth-conditions are being supplied. Now, the master thesis behind the application of metaphysical semantics in the philosophy of logic was that logical vocabulary in a nonfundamental language might not carve at the joints. Leaving aside the case of quantifiers, the non joint-carving nature of which in natural language is surely *de fide* for the metaphysical semanticist, the case for this is persuasive especially in the case of negation.³⁸ In any case, given that debates between classical and nonclassical logicians are usually best viewed as concerning the logic of negation, it is fatal to any metaphysical semantics which hopes

³⁸Conditionals strike me as being another prime candidate.

to reconcile fundamental classicality and nonfundamental nonclassicality to impose a condition which enforces a uniform treatment of negation between the fundamental and nonfundamental levels.

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