Tenseless/Non-Modal Truthmakers for Tensed/Modal Truths

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Abstract

There is a common approach to metaphysical disputes, which takes language as its starting point, and leads to a view about the range of acceptable metaphysical positions in any such dispute. I argue that this approach rests on accepting what I call the Strong Linguistic Thesis (SLT). In the metaphysical debate about time I argue that the new B-theory has rejected SLT, and for good reasons. The metaphysical debate about modality parallels the early metaphysical debate about time. I argue that a position analogous to the new B-theory of time is available in the modal debate, and has some advantages over its rivals.

1   Analogies Between Time and Modality

Analogies between time and modality have often been alluded to in the philosophical literature, for a variety of purposes.[1] It may be pointed out there is an analogy between a certain view about time, and a view about modality, the intention being to make either view seem more plausible because of the analogy. Alternatively, an analogy with an allegedly *im*plausible view about modality, for example, may be appealed to in order to cast doubt on some view about time. It seems to me that the analogies that have been discussed fall into two broad, but not unrelated categories. There are linguistic analogies, which I take to encompass both logical and semantic analogies, and there are metaphysical analogies.

In the metaphysical realm the view about time known as presentism is often compared with the view about modality known as actualism.[2] Presentism is the view that only present objects exist, while actualism is the view that only actual objects exist. This comparison is taken to be favourable to presentism, as actualism is the commonsense view of modality. Conversely, eternalism, the view that all times and the objects that occupy them are equally real, is compared with modal realism, the view that all worlds and the

objects that occupy them are equally real.[3] This comparison is taken to be unfavourable to eternalism, as modal realism is assuredly not the commonsense view of modality.

Along with these metaphysical analogies come a raft of logico-semantic analogies. Presentists and actualists prefer an account of tensed and modal language that involves tense or modal operators that operate on core present-tense sentences, or sentences about actuality.[4] Eternalists and modal realists prefer an account of tensed and modal language such that the analysis is free of tensed and modal terms, that quantifies over times and worlds, and that offers an indexical analysis of tensed and modal terms.[5] Of course, the logico-semantic views are not inextricably tied to their metaphysical counterparts. In particular, one can prefer a possible worlds analysis of modal discourse without taking oneself to be committed to the concrete existence of those worlds.[6] Indeed, eternalists typically adopt the modal analogue to their view in the logico-semantic realm, but not the metaphysical realm. Markosian has suggested that this reflects one's antecedent views about the relationship between time and modality.[7] That the presentist fully embraces the analogy between his view and actualism reflects the fact that he takes time to be fundamentally similar to modality, but fundamentally different from space, for example. The eternalist, by contrast, takes time to be fundamentally similar to space, but fundamentally different from modality.

Having noted these much-discussed analogies I want to approach the issue of the parallels between time and modality in a rather different way. It is, however, influenced by the point I have made in this section, which is that there are both logico-semantic and metaphysical analogies between time and modality. I want, first, to note how the relationship between language and metaphysics influences contemporary metaphysical investigation.

2   The Language-Metaphysics Connection

Most contemporary metaphysicians in the analytic tradition take the primary concern of metaphysics to be the systematic study of the most fundamental structure of reality as a whole.[8] Metaphysics studies the nature of existence, what it is for an entity to be an existing thing, and the natures of the most general kinds under which existing entities fall. Its subject matter is, thus, reality itself, and its aim is to discover the nature and structure of that reality.

How do metaphysicians carry out this investigation into the nature of reality? Like any other investigation, it must have some preliminary data, consideration of which constitutes its starting point. It is widely agreed that the data for a metaphysical investigation are our ordinary thought and talk about (or our representations of) the world.[9] Michael Loux suggests that metaphysical disputes typically display a certain general structure.[10] They are often organised as responses to a question about the existence of things of a very general type or category. Examples include: Are there properties? Are there propositions? Are there events? Loux continues,

> In each case, there is a body of pre-philosophical facts that function as data for the dispute. One party to the dispute insists that to explain the relevant pre-philosophical facts, we must answer the existential question affirmatively. The other party claims that there is something philosophically problematic in the admission of entities of the relevant sort into our ontology, and argues that we can account for the pre-philosophical facts without doing so.[11]

In general, then, metaphysical investigations begin with existential questions, where the entities whose existence is in question are of very general kinds. Appeal is then made to our ordinary conceptual representations of the world, and consideration is given as to whether those representations commit us to the existence of entities of the kind in question. It is often the case that they seem, prima facie, to do so. Proponents of their existence take this prima facie commitment to support their case. Opponents of their existence argue that the commitment is only apparent, and attempt to find some other way of accounting for it.

3   The Metaphysical Debate About Time

One metaphysical debate that has been structured in the way outlined in the previous section is the debate about the ontological status of tense in the philosophy of time. According to the A-theory of time, there is an objective, ontological distinction between the past, present and future, so there are tensed facts.[12] According to the B-theory of time, there are no tensed facts. So the debate is focused around an existential question: are there tensed facts? In support of its claim about the existence of tensed facts, A-theorists often appeal to features of our ordinary linguistic representations of temporal reality, namely,

that many of them are tensed, true, and irreducible to, or untranslatable by any tenseless linguistic representations. So, for example, a token, *u*, of the sentence 'The enemy is now approaching'[13] is tensed, true (let us suppose) and cannot be translated without loss of meaning by any tenseless sentence, such as, for example, 'The enemy's approach is (tenselessly) simultaneous with *u*'. The way in which these data are thought to provide that support is via the claim that, since there are some things that can only be said with the use of tensed sentences, there must be some facts in reality that can only be described, or expressed, using those sentences, namely, tensed facts.

The B-theory rejects the existence of tensed facts, and claims that we can account for the A-theory's pre-philosophical data without supposing them to exist. Early proponents of the B-theory tried to prove this by showing that tensed sentences could be translated, without loss of meaning, by tenseless sentences.[14] The idea behind this translation project was that if tensed expressions are not needed to completely describe reality, it must follow that there is no feature of reality that they describe. So, if successful, the translation project was thought to show that in reality there is no distinction between past, present and future.

It is clear that proponents of both the old B-theory of time and the A-theory of time were working on the assumption that language is a guide to ontology. Implicit in both their positions is the idea that there is one true description of temporal reality, and once we have arrived at that description, the next step is simply to read off the nature and structure of temporal reality from the nature and structure of the representations contained in it. To see that they do both make this assumption, we merely have to consider their disagreement. Proponents of the existence of tensed facts argue that, since there are true, ineliminable tensed sentences, reality contains tensed facts. Opponents of the existence of tensed facts argue that true tensed sentences are eliminable in favour of tenseless sentences, so reality does not contain tensed facts. Their disagreement, therefore, is over whether tensed truths are eliminable. If they are not eliminable, the implication is that they are part of the ontologically privileged description, which informs us of the ontological nature of reality. If they are eliminable, the implication is that they are not part of the ontologically privileged description, which tells us something different about the ontological nature of reality. Thus, protagonists in this debate agree that there is one true description of reality, which can inform us about the ontological nature of reality, but they disagree over which truths that true description contains.

4   One True Description of Reality

There are at least two different ways of understanding this notion of 'one true description of reality'. According to the first interpretation, the one true description of reality is the collection of all the truths that there are.[15] This collection contains the truths of physics, and of the other sciences. It contains ordinary, everyday truths, political and economic truths, moral truths (if there are any), and so on. Since it contains all the truths that there are, and there are some tensed truths and some tenseless truths, it will contain both of these kinds of truth. The tensed truths, being context-dependent, may have to have their contexts of utterance made explicit in order to rule out the possibility of the one true description containing apparently contradictory 'truths'. For example, unless we make the context explicit, the one true description may contain the truth 'It is raining' and the truth 'It is not raining', which appear to contradict each other. Once we make the context explicit, however, we can see that they do not really contradict each other. The former utterance is produced at time t_1, when it is raining, and the latter is produced at time t_2, when it is not raining. I will call this interpretation of the notion of 'one true description of reality' the Weak Linguistic Thesis (WLT):

WLT   There is one true description of reality that contains all the truths that there are.

This cannot be the sense of 'one true description of reality' over which the A- and B-theorists disagree. They both accept that ordinary tensed sentences can be determinately true. So they would not deny that there is a collection of all the truths that there are, where that collection includes both tensed and tenseless truths. There must be an alternative interpretation of the notion which allows for their disagreement.

An interpretation that permits the disagreement between A- and B-theorists is that there is one true description of reality which contains a subset of all the truths that there are. This subset of truths is ontologically perspicuous, in that each truth in it reveals the nature of the fact that it describes, and that makes it true. In order for this to be the case, there can be no more than one truth per fact. If there were more than one truth per fact, then a choice would have to be made as to which was the most ontologically perspicuous. So this notion of the one true description of reality involves a commitment to the view that

there is a one-to-one correspondence between truths in the one true description and facts in the world. I will call this interpretation of the notion of 'one true description of reality' the Strong Linguistic Thesis (SLT):

SLT   There is one privileged, true description of reality, the sentences of which (a) stand in a one-to-one correspondence with facts in the world, and (b) are structurally isomorphic to the facts with which they correspond.[16]

SLT captures the notion of 'one true description of reality' implicitly assumed by both A- and B-theorists. Their disagreement is over which truths that description contains. For the A-theory of time it contains tensed sentences, and *because* it contains tensed sentences, reality contains tensed facts. In order to reach the conclusion that there are tensed facts from the premise that there are ineliminable tensed sentences in the one true description, one must think (i) that there is a fact corresponding to every truth in that description, and (ii) that the truths are structurally isomorphic to the facts. Without (i) the A-theorist would not be able to infer that there are *any* ontological counterparts to her tensed truths. Without (ii) she would not be able to infer that those ontological counterparts are *tensed*.

For the old B-theory of time the one true description is given to us by a language purged of tensed expressions. Because, according to her, tensed sentences are eliminable in favour of tenseless sentences, the one true description contains only tenseless sentences. She concludes from this that reality contains only tenseless facts. Once again, in order to reach this conclusion she must think (i) that there is a fact corresponding to every truth in that description, and (ii) that the truths are structurally isomorphic to the facts. Without (i) the she would not be able to infer that there are *any* ontological counterparts to her tenseless truths. Without (ii) she would not be able to infer that those ontological counterparts are *tenseless*. So, for the old B-theory, even though tensed sentences are true, they are not part of the one true description, as that is one that has a fact corresponding to, and discernible from, every sentence contained in it.

When presented with SLT it may be that most, if not all, philosophers (and not just philosophers of time) would explicitly reject it. That is all well and good. I too think it is false, and I shall be arguing for that conclusion. But my point here is that whether or not one thinks it false when considering it on its own merits, the logic of the arguments of the

A- and old B-theorists requires that it be assumed. Once we make it explicit, and then reject it, we can see that this dispute is, by and large, fruitless.

Both A-theorists and old B-theorists thought that an acceptable means of arriving at the one true description of reality, understood in the restricted sense of SLT, is the method of paraphrase. The idea behind the method of paraphrase is that it seems to offer a way out of being committed to the existence of entities apparently implied by the sentences of ordinary language. The aim of the method of paraphrase is to find a sentence that conveys all the same information as that conveyed by the original, problematic sentence, but which lacks the original's apparent ontological commitments. If a suggested paraphrase fails in either of these respects then the proponent of the existence of the entities in question can argue that the paraphrase is inadequate, and retain her commitment to their existence. Consequently, when the method of paraphrase is employed on a particular metaphysical issue, debate often centres on whether a suggested paraphrase really does convey all the information conveyed by the original sentence.

A-theorists argued that any tenseless paraphrase of a tensed sentence fails to completely capture the meaning of the original, and is thus an inadequate paraphrase. B-theorists argued that the tenseless paraphrases did indeed convey all the information conveyed by their tensed counterparts, so they were adequate paraphrases. However, the tenseless sentences lacked the unwanted ontological implications of the tensed sentences, and were, for that reason, ontologically more accurate descriptions of temporal reality. Consequently, in this, as in other metaphysical disputes, the debate about the nature of temporal reality was quickly transformed into a debate about the meanings of temporal sentences.

5   The New B-Theory of Time

More recently, B-theorists have abandoned the attempt to find tenseless translations for tensed sentences. They now argue that, even though tense is ineliminable from natural language, that in itself does not force us to admit the existence of tensed facts.[17] Instead, the fact in the world responsible for making true any true tensed sentence is a purely tenseless fact. For example, the truthmaker of a token, u, of the tensed sentence 'The enemy is now approaching' is the tenseless fact that the enemy's approach is (tenselessly) simultaneous with u. So-called new B-theorists of time have rejected the strategy of starting their metaphysical enquiry with the pre-philosophical data of the fact that

ordinary language is irreducibly tensed, and of asking what that can tell us about the nature of temporal reality. Rather than employing an account of the semantics of temporal language to arrive at conclusions about the ontological nature of time, they employ an account of the ontological nature of time to explain the semantics of temporal language.

How does the new B-theory fit in to the methodological structure of a metaphysical dispute characterised in §2 and exemplified by the debate between the A-theory and the old B-theory of time? Its proponents agree with the A-theory that tense cannot be eliminated from natural language, but they deny that that implies that time itself is tensed. The only way they can sustain this position is if they reject SLT, and its corollary, that paraphrase is ontologically significant. If SLT is true, then there is one privileged true description of temporal reality the sentences of which (a) stand in a one-to-one correspondence with facts in the world, and (b) are structurally isomorphic to the facts with which they correspond. That description will be either tensed or tenseless. If it is tensed, then reality itself is tensed, and if it is tenseless, then reality is tenseless. Given that this is the structure of the debate between A-theorists and old B-theorists, it should be clear that there is simply no room for the position of the new B-theorist, according to which language is irreducibly tensed, but time is tenseless, unless the underlying assumption, SLT, is relinquished. By asserting their position they must, therefore, whether they realised it or not, have rejected that underlying assumption.

The truthmaker variant of the new B-theory thus rejects SLT. It need not reject WLT, according to which there is a true description of reality, which is a collection of all the truths that there are. But it denies that the sentences of that description stand in a one-to-one correspondence with the facts in the world, or that those sentences need be structurally isomorphic to the facts that make them true. The ratio of true sentences to facts in the world can instead be many-to-one. For each fact there can be many ways of accurately describing it. Tensed sentences are true and irreducible to tenseless sentences, but it does not follow that there must be some extra-linguistic fact corresponding to the additional information that they convey over and above that conveyed by tenseless sentences.

The debate between the A- and both versions of the B-theory of time can be illustrated by considering the following argument:

The argument from tensed language

1. Some tensed sentences are untranslatable into tenseless sentences without loss of meaning.

2. If there are tensed sentences which are untranslatable and true, then there are corresponding, irreducible tensed facts.

3. Some of those tensed sentences which are untranslatable are also true.

4. Therefore, some irreducible tensed facts exist.[18]

According to the A-theory this argument is sound. If some true sentence makes an ineliminable reference to the pastness (say) of an event, that must be because there exists a fact about the pastness of that event to which that sentence refers. So, according to A-theorists, the argument from tensed language establishes the existence of tensed facts.[19] The old B-theory thought that the argument from tensed language was unsound because premise 1, (and therefore also premise 3, see note 18) is false. Its proponents offered a variety of translation schemas, which purported to show how any tensed sentence could be replaced by some tenseless sentence without any loss of meaning. But these attempts failed, because premise 1 is true.

The new B-theory also takes the argument from tensed language to be unsound, but it rejects premise 2. Tensed sentences are not translatable by tenseless sentences, as premise 1 says, but it is not the case that the only alternative to this is that they refer to tensed facts. Indeed, premise 2 conceals the implicit, and illicit, inference from claims about language to conclusions about reality, which is precisely what new B-theorists reject. It is possible for there to be true tensed sentences that cannot be translated by tenseless sentences even if there are no tensed facts. A tensed sentence can be irreducible, in that no tenseless sentence can capture the entire meaning conveyed by it, while still being made true by a purely tenseless fact. It thus rejects the notion that there is one true description of temporal reality, in the sense given by SLT, and that our goal is to arrive at that description and then simply to ascertain from its nature, the nature of temporal reality described by it.

What was accepted by the A-theory and the old B-theory, and rejected by the new B-theory, is that we can move by valid inference from premises about the nature of language to conclusions about the nature of reality. The A-theorist thought that we can conclude that reality is tensed from the fact that ordinary language is irreducibly tensed.

The old B-theorist thought that we would be committed to this conclusion, if it was true that ordinary language was irreducibly tensed, but she thought that it wasn't. The new B-theorist, on the other hand, accepts that ordinary language is irreducibly tensed, but denies that reality is tensed. Therefore, she rejects any move from the nature of temporal language to the nature of temporal reality as fallacious.

The question I want to address now is whether this approach to the relation between temporal language and temporal reality can be adopted in the realm of modality. I think it can, and that doing so will reveal an advantageous approach to the metaphysics of modality.

6   A Debate About Modality

One of the central issues in modality is whether or not modal notions can be given a completely reductive analysis, such that the analysis is entirely free of modal notions. Sider cites three reasons why one might want to achieve such an analysis.[20] The first is epistemological. Many modal truths are known a priori, yet it seems odd that we can know such truths without the benefit of empirical or sensory evidence. If we can define modal notions in terms of notions for which we have an adequate epistemological basis, then the status of our claims to modal knowledge might be explained. A second reason why we might seek a reduction of the modal to the non-modal is metaphysical. Sider asserts that

> Reductionism is required by any ontology that claims to give a comprehensive account of reality in terms of primitive entities and notions that do not include modal notions.[21]

So, according to Sider, if we want our account of reality to be free of modal notions, we need to exclude them by defining them in terms of non-modal notions. This is, presumably, so that everything that is ordinarily expressed by a modal term or sentence can be expressed instead by a non-modal term or sentence. A further metaphysical reason for requiring a reduction of the modal to the non-modal, noted by Sider, is driven by considerations of parsimony. He writes,

The metaphysician prefers desert landscapes when she can get them; when it is possible to reduce, we should. Of course the reduction might fail; parsimony gives us reason to search, but does not guarantee success.[22]

Sider's discussion of the reduction of the modal to the non-modal, and the motivations for it, is carried out in terms of the reduction of modal *terms* to non-modal *terms*. So the aim of the reduction is to replace modal language with non-modal language. However, the underlying aim of any metaphysician concerned to achieve a reduction of the modal to the non-modal is surely to show that reality itself is non-modal. Here we begin to see parallels between the modal and temporal debates. Early on in the temporal debate the question at issue was whether tensed language could be reduced to or replaced by tenseless language. The significance of this linguistic issue, however, was taken to be that it had implications for the metaphysical nature of time. Here, in the debate about modality, the question at issue is whether modal language can be reduced to or replaced by non-modal language. The significance of this linguistic issue is taken to be that it has implications for the question of whether modal entities exist in reality.

That the real issue is metaphysical rather than merely linguistic is seen more clearly when we consider Sider's third motivation for a reduction of modality stated above, which was from considerations of parsimony. This motivation is surely driven by a desire not to be forced to recognise the existence of modal properties or facts. In other words, the metaphysician does not want to recognise modality as a constituent of extra-linguistic reality. The metaphysician, as Sider notes, prefers desert landscapes to more abundant ones. She does not merely prefer desert representations of the landscape, however abundant it may actually be. What this suggests, though, is that by seeking to reduce modal terms to non-modal terms, a reductionist is really seeking not to have to recognise modal entities as part of extra-linguistic reality, and also believes that she can achieve this just by concentrating on a reduction of modal language to non-modal language. Why else, it must be asked, would one bother to seek to reduce modal language to non-modal language? If one could deny the existence of modal entities without having to effect such a reduction, then that, surely, would be preferable.

What are the alternatives to reductionism in this debate regarding the status of modal discourse? Sider notes two: primitivism and eliminativism.[23] Primitivism is the view that modality is unanalysable, so is opposed to reductionism, according to which modality

is analysable. So described, primitivism is a view about modal discourse; that it is unanalysable or irreducible to non-modal discourse. The ontological dimension of primitivism, though, must be the idea that modality *is* a constituent of reality. Parsimony, recall, can push us to seek reductions of one kind of discourse to another in the hope that we can arrive at the desired representation of a desert landscape, but if a reduction is unavailable, then the dream of a desert landscape, it seems, must be equally unavailable. Eliminativism, like reductionism, denies that modality is a feature of reality, but like primitivism, sees no chance of a successful reduction of modal to non-modal discourse. According to the eliminativist, reality contains no modal features, so any discourse that appears to refer to such features must either be in error, or not be truth-apt.

As I suggested above, I think there are important parallels between the debate about modality and the debate about tense. These can best be brought out by considering a modal version of the argument from tensed language, and the possible responses to it.

The argument from modal language

1. Some modal sentences are untranslatable into non-modal sentences without loss of meaning.
2. If there are modal sentences which are untranslatable and true, then there are corresponding, irreducible modal facts.
3. Some of those modal sentences which are untranslatable are also true.
4. Therefore, some irreducible modal facts exist.[24]

As I noted above, according to Sider, the three positions available with respect to whether modal discourse is reducible to non-modal discourse are reductionism, primitivism and eliminativism. Reductionism denies premise 1 of the argument from modal language. According to it modal notions are reducible to non-modal notions, so it is possible to achieve a correct account of reality without employing any modal notions. Hence, the reductionist concludes, we are not forced to countenance modality as a constituent of reality. Primitivism accepts the argument from modal language as sound. It denies that modal discourse can be reduced to non-modal discourse, and it accepts premise 2, that if some discourse is irreducible then it implies the existence of facts that can only be described by that discourse. Since some modal sentences are true, primitivism concludes that there are modal facts. The desert landscape is simply not to be had when it comes to

modality. Eliminativism rejects the conclusion of the argument from modal language by rejecting premise 3. Since there are no modal facts, according to the eliminativist, any sentences that imply that there are modal facts must not be true. Modal sentences imply that there are modal facts, so modal sentences are either systematically false, or simply not capable of truth or falsity.

In the debate between modal reductionism, primitivism and eliminativism so described, just as in the debate about tense, SLT plays a significant role. The debate between these three positions makes sense only if one takes the protagonists to have assumed it. Reductionism attempts to replace modal with non-modal discourse with the aim of showing that, since modal discourse is not needed for an adequate description of reality, there are no modal facts in reality. Thus, the reductionist assumes that there is one true description of reality the sentences of which stand in a one-to-one correspondence with facts in the world, and are structurally isomorphic to the facts with which they correspond. Since there are no modal truths in the privileged true description, she concludes that there are no modal facts. The primitivist argues that modal discourse cannot be replaced by non-modal discourse, so there are modal truths in the one true description, and consequently there are modal facts. The eliminativist, like the reductionist, thinks there are no modal facts, but like the primitivist thinks that modal discourse cannot be replaced by non-modal discourse, and consequently takes modal discourse to be in error, or not truth-apt. As a result, the eliminativist does not include modal discourse in the one true description of reality.

In the next section I will consider whether there is a strategy available in the debate about modality that, like the new B-theory of time, rejects SLT, and if so, whether such a strategy is likely to have any advantages.

7   A Modal Analogue of the New B-Theory

According to the strategy of the new B-theory of time the argument from temporal language is unsound because premise 2 is false. It is not the case that our only two options, with respect to the sentences of some domain of discourse which we take to be literally true, is to find some reductive analysis of them or to accept that there are facts that only they can describe. The availability of this strategy is a direct result of abandoning SLT. Instead of the two options presented by premise 2, we can argue that true tensed sentences

may have truthmakers that do not involve tensed facts even if no reduction from a tensed sentence to a tenseless sentence is available.

With respect to the debate about modality a proponent of a parallel strategy would maintain that any true modal sentence may have a non-modal truthmaker even if no reduction of the modal sentence to a non-modal sentence is available. Thus, the argument from modal language does not force us to accept the existence of modal facts just on the basis of the unavailability of successful reductive analyses of modal language.

What sort of non-modal truthmakers might such a strategy suggest for modal truths? Mondadori and Morton suggest one answer to that question.[25] They argue, in line with the overlooked strategy, that modal statements can be objectively true, even though it is not possible to provide non-modal paraphrases of them. They further argue that, 'when such statements are true, they are true by virtue of actual facts about actual individuals'.[26] Although they do not express it in these terms, it is, I believe, instructive to see theirs as a kind of 'multiple realisability' view of modality. They suggest that the sentence 'Ljubojevic might win the Petropolis Interzonal', uttered at some time, t, is made true by facts about Ljubojevic's state at t, (his strength and inventiveness), facts about the state of his opponents at t, and facts about the history of the tournament up to t. However, the predicate 'might win the Petropolis Interzonal' does not pick out exactly the same physical properties every time it is used. When applied to some other individual, it may result in a true sentence by virtue of that individual possessing quite different physical properties from those possessed by Ljubojevic at t, together with different facts about the tournament and the other contestants. So, according to Mondadori and Morton, modal predicates cannot be paraphrased by non-modal predicates but, when they occur in true sentences, the truthmakers of those sentences are physical facts about the actual objects (and their surroundings) to which the modal predicates are applied.

Another answer to the question of what the non-modal truthmakers are for modal truths is suggested by Heil.[27] Sentences about what is possible or necessary do not describe features of extra-linguistic reality. Instead they are, if true, made true by the conditions of correct application of our concepts. Consider a couple of examples. The sentences 'It is possible that water is a stimulant' and 'It is necessary that no circle is a square' are paradigm modal sentences. Our intuitions suggest that both are true and, as Sider noted, we seem to be able to recognise that they are both true on a priori grounds.

According to the suggestion under consideration, each of those sentences is made true by facts about the conditions of correct application of our concepts.

Let's take the first sentence first. The embedded sentence 'Water is a stimulant' is false, but the attachment to it of the possibility operator results in a sentence that asserts that reality might have been such that it was true. In order for reality to have been that way, some part of reality would have had to satisfy the concept *water* and also the concept *stimulant*. Nothing about the application of the concept *water* precludes it from applying to something that also satisfies the concept *stimulant*, so the claim that something might have existed that satisfied both concepts is coherent. Thus, we can conclude that the sentence 'It is possible that water is a stimulant' is true.

Consider now the second sentence. Here the embedded sentence 'No circle is a square' is true, but the attachment to it of the necessity operator results in a sentence that asserts, not just that no circle is in fact a square, but that no circle could possibly be a square. Again, our intuitions are that the modal sentence is true. And the proposal under consideration explains that intuition. In order for reality to be such that some circle is a square, some part of reality must satisfy the concept *circle* and the concept *square*. But the conditions of application of the concept *circle* are such that they preclude anything from satisfying that concept if it also satisfies the concept *square*. Hence, it is not possible for anything to be both a circle and a square, so our modal sentence 'It is necessary that no circle is a square' is true.

The proposal that the truthmakers for modal truths are facts about our concepts and their conditions of application has a number of virtues. First, it explains the puzzle, noted by Sider, that generates the epistemological motivation for seeking a reduction of modal to non-modal discourse. That puzzle concerns how it is possible that we can have a priori knowledge of modal truths. If the truthmakers for such truths are facts about the conditions of application of our concepts, then there is no need to turn to mind-independent reality to discover that they are true. All we have to do is investigate our concepts and how we apply them. Second, there is no need to effect a reduction of modal to non-modal discourse, or to be an eliminativist, in order to deny that modality is a feature of extra-linguistic reality. Since such reductions have been notoriously difficult to come by, and eliminativism is an unattractive option given the extent to which modal discourse is embedded in our thought and language, that is a significant advantage of this approach. The desired desert landscape can, after all, be achieved without having to find a way of

reducing modal to non-modal discourse. Third, one implication of this approach is that modality turns out to be a feature, not of the world, but of us and our thought and language. Since there seems to be no sense in thinking that the truthmaker for 'Water might have been a stimulant' or 'It is necessary that no circle is a square' exists in the world as part of extra-linguistic reality, this seems to me to be a significant virtue of the proposal under consideration.

It should be noted, however, that the suggestions by Mondadori and Morton, and by Heil that I have described, are just two ways of developing the overlooked strategy with respect to modality. What is constitutive of this approach is that we do not have to show that modal truths are reducible to non-modal truths in order to deny any commitment to modal facts. Modal truths can have non-modal truthmakers while remaining irreducible to non-modal truths. How one goes about determining what the truthmakers for modal truths are is a matter that is left entirely open by the strategy itself. There are many reductionist strategies with respect to modality, but these are, by and large, problematic.[28] One particular way in which they are often problematic is that the proposed reductions do not, in general, have the same meanings as the original modal claims. However, any of these strategies could plausibly be adopted within the structure of the overlooked strategy, and the fact that the analyses were not synonymous with the originals would not matter. Thus, one could offer any of the possible worlds analyses of modality (from Lewis's analysis in terms of concrete possible worlds, to linguistic, fictional or combinatorial analyses), such that the content of the proposed reduction would play the role, not of analysis, but of stating the truthmakers for modal truths. The fact that statements within these proposed reductions do not have the same meanings as the original modal claims is irrelevant to their ability to be statements describing the truthmakers of the modal claims.

8   Conclusion

In debates about the metaphysics of time and of modality, many analogies between positions in each of these debates have been alluded to, where these analogies have concerned both metaphysical positions and treatments of tensed and modal discourse. What I have suggested here is not a straightforward analogy between the two domains, but rather a parallel way of approaching them. My suggestion may not, in fact, lead to positions with respect to the two domains that are analogous. Nevertheless, I think the common strategy that I am suggesting can have advantageous results in both domains.

I have argued that there are parallels between the positions traditionally adopted with respect to time and modality, and that these positions all assume SLT, that there is a privileged true description of reality, the sentences of which stand in a one-to-one correspondence with facts in the world, and are structurally isomorphic to those facts. The new B-theory of time rejected that thesis, holding instead that the ratio of truths to facts can be many-to-one. That is, there can be two or more non-synonymous true sentences that have the same truthmaker. I then argued that a strategy parallel to that of the new B-theory of time is available with respect to modality. That is, we do not need to achieve a reduction of modal to non-modal sentences in order to deny that there are any modal facts. This strategy is a purely formal suggestion that can be filled out with content in any number of ways, and I outlined two proposals in the literature that might lend themselves to it. My contribution is to bring the formal strategy in modality to the fore, by comparing it with the existing, and widely endorsed parallel strategy in the debate about time.[29]

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[1] See, for example, Prior 1967; Lewis 1986, 202-04; Zalta 1987; Dyke 1998; and Markosian 2001.

[2] See, for example, Prior 1970; Markosian 2001 and 2004.

[3] Loux 2002, 224-226.

[4] Prior 1967, 8-9; Markosian 2001.

[5] Lewis 1970.

[6] See, for example, Divers 2006.

[7] Markosian 2001, 626.

[8] Lowe 1998, 2.

[9] See, for example, Laurence and Macdonald 1998, 6; Loux 2002, 16.

[10] Loux 2002, 16.

[11] Loux 2002, 16.

[12] By 'fact' I mean an extra-linguistic entity. I take no position on whether facts must have a certain sort of structure. I simply use the term to denote some part of the extra-linguistic world, as opposed to a linguistic entity.

[13] This example originates with Gale 1962.

[14] See, for example, Russell 1915, Goodman 1951; Quine 1960, and Smart 1963.

[15] The idea that there can be a set of all truths has been shown to be paradoxical (see, for example, Grim 1984). The idea is that if we assume that there is a set of all truths, then to each subset of it, or element of its power set, there will correspond a unique truth. It follows that there will be at least as many truths as there are elements of the power set. But by Cantor's power set theorem the power set of any set will be larger than the original. It follows that there are more truths than there are members of the original set of all truths. So that set cannot be the set of all truths. However, there are at least three strategies for preserving a non-paradoxical notion of 'all the truths'. These are the restriction strategy, the class strategy and the non-maximal strategy. For more on these strategies see Divers 2002, 245-256. My preference is for the last of these strategies. However, for my purposes I will simply assume that some non-paradoxical notion of 'all the truths' can be preserved which adequately captures the idea that there is one true description of reality which is the collection of all the truths that there are.

[16] SLT does not imply that for every fact there is a sentence describing it. To think that there is just one true description of reality need not involve thinking that the description is complete. There have been, are and will be many facts that remain forever undescribed by language users. Instead, the one-to-one correspondence between truths and facts alluded to here should be understood as implying that for any fact in the world there is at most one truth in the one true description.

[17] Mellor 1998, Smart 1980.

[18] The first premise of this argument is logically redundant, as the argument would be valid without it. However, it is not dialectically redundant, as it allows us to distinguish two different ways of challenging premise 3: either by denying that there are any true tensed sentences that are untranslatable, or by denying that there are any tensed, untranslatable sentences that are true.

[19] Craig 2000 offers an argument for the reality of tense, which he calls the argument from the ineliminability of tense. That argument is somewhat similar to this one. I criticise that argument in Dyke 2003.

[20] Sider 2003.

[21] Sider 2003, 184.

[22] Sider 2003, 185.

[23] There are other alternatives to reductionism, which can also be seen as responses to the argument from modal language, but I shall focus on these two.

[24] As in the temporal argument, the first premise of this argument is logically, but not dialectically, redundant.

[25] Mondadori and Morton 1976.

[26] Mondadori and Morton 1976, 4.

[27] Heil 2003.

[28] See Sider 2003 for a survey of some of these strategies.

[29] I am grateful to Colin Cheyne, John Divers, Alan Musgrave and an anonymous referee for this journal for many helpful comments on earlier drafts of this paper.