Do We Need Propositions?

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Abstract
Trenton Merricks argues that we need propositions to serve as the premises and conclusions of modally valid arguments (Merricks 2015). A modally valid argument is an argument in which, necessarily, if the premises are true, then the conclusion is also true. According to Merricks, the premises and conclusions of modally valid arguments have their truth conditions essentially, and they exist necessarily. Sentences do not satisfy these conditions. Thus, we need propositions. Merricks' argument adds a new chapter to the longstanding debate over the existence of propositions. However, I argue that Merricks' argument does not quite succeed. Merricks has overlooked one viable alternative to postulating propositions. However, this alternative employs the relation of being *true-at-a-world*, which is difficult to analyze. Thus, the soundness of Merricks' argument ultimately depends on the comparative merits of accepting propositions as abstract entities, versus accepting truth-at-a-world as an unanalyzed relation between sentences and possible worlds.

Keywords
Propositions, modality, abstract objects, logical validity, Trenton Merricks

Trenton Merricks argues that we need propositions to serve as the premises and conclusions of modally valid arguments (Merricks 2015). A modally valid argument is an argument in which, necessarily, if the premises are true, then the conclusion is also true. According to Merricks, the premises and conclusions of modally valid arguments must have their truth conditions essentially, and they must exist necessarily. Sentences do not satisfy either of these conditions. Therefore, sentences cannot serve as the premises and conclusions of modally valid arguments. For that purpose, we need are propositions. Therefore, propositions exist. Merricks' argument adds a new chapter to the longstanding debate over the existence of proposi-

tions. However, I will argue that Merricks' argument does not quite succeed. I believe that Merricks has overlooked one viable alternative to postulating propositions. However, that is not the end of the matter. This alternative employs the relation, between sentences and possible worlds, of being *true-at-a-world*. This relation is notoriously problematic, especially in this context. Many existing analyses of this relation quantify over propositions. Those analyses will be of no use in this context, where the purpose is to avoid any ontological commitment to propositions. The most salient alternative is to take the relation of being true at a world as primitive and unanalyzable. Thus, we face a familiar sort of tradeoff—between admitting certain entities into our ontology, on the one hand, and accepting certain facts as fundamental and unanalyzable on the other. Do we need propositions? It depends on the comparative merits of accepting propositions as abstract entities, and accepting truth at a world as an unanalyzed relation between sentences and possible worlds.

A modally valid argument is an argument in which, necessarily, if the premises are true, then the conclusion is also true. It is very plausible to suppose that there are such arguments.

Merricks offers the following, familiar example.

(1) All men are mortal

(2) Socrates is a man.

Therefore

(3) Socrates is mortal.

Necessarily, if (1) and (2) are true, then (3) is also true. Now suppose that the premises and the conclusion of this argument are *sentences*. Sentences have their truth-conditions only contingently. For any sentence S, we could have used S in such a way that it had different truth conditions from its actual truth conditions. According to Merricks, this fact about sentences makes them ill-suited to serve as the premises and conclusions of modally valid arguments.

> …suppose, for reductio, that the following are all jointly possible: (1) is true if and only if dogs bark and (2) is true if and only if the sky is blue and (3) is true if and only if pigs fly; and dogs bark and the sky is blue and pigs do not fly. Our supposition for reductio implies that it is pos-

sible for (1) and (2) to be true and (3) false. So it implies that the above argument is not modally valid. But that argument is modally valid. So what we supposed for reductio is false. (Merricks 2015: 4–5)

Merricks infers that the premises and the conclusion of this argument (and every modally valid argument) must have their truth conditions essentially. Since sentences do not have their truth conditions essentially, (1), (2) and (3) cannot be sentences. Merricks goes on to argue that, for related reasons, (1), (2) and (3) must be things that exist necessarily. He concludes that if there are modally valid arguments, then there must be entities that that have their truth conditions essentially and exist necessarily. These entities cannot be sentences. They are propositions.[1]

To defend this argument, Merricks considers two alternative accounts of modal validity that would avoid any commitment to propositions. Here is the first alternative.

> An argument is modally valid just in case, necessarily, if its premises are true *and have their actual truth conditions, and its conclusion has its actual truth conditions*, then its conclusion is true. (Merricks 2015: 11)

By holding fixed the actual truth conditions of the sentences involved, this account correctly implies that the argument from (1) and (2) to (3) is modally valid. Necessarily, if the sentences "All men are mortal." and "Socrates is a man." are true, and if they have their actual truth conditions, and if the sentence "Socrates is mortal." also has its actual truth conditions, then that latter sentence is also true. However, this account suffers from a crippling defect of its own.

Merricks illustrates the defect with the following inference.

(I) Electrons exist.

Therefore

(II) A sentence exists.

Merricks argues this account of modal validity will classify this inference as modally valid. The reason is that a sentence can be true and

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[1] The distinction between sentence types and sentence tokens is irrelevant here. Neither sentence types nor sentence tokens have their truth conditions essentially, so the distinction is irrelevant to Merricks' argument. I will return to this issue in the sequel.

have its actual truth conditions only if that sentence actually exists. (Merricks argues for this assumption elsewhere in the book. I will grant it here, for the sake of argument.) The alternative account of modal validity says that an argument is modally valid if and only if: necessarily, if the premises are true and if they have their actual truth conditions, and if the conclusion has its actual truth conditions, then the conclusion is true. If a sentence has to exist in order to be true and to have its actual truth conditions, then if the sentence "Electrons exist" is true and has its actual truth conditions, then that sentence exists. Therefore at least one sentence exists. Thus, the existence of electrons entails the existence of at least one sentence. However, that is mistaken. Thus, the alternative account of modal validity is mistaken. (Merricks 2015: 12)[2]

Merricks considers one more alternative. This account is based on the distinction between being *true in* a possible world and being *true at* a possible world. A sentence S is *true in* a possible world W just in case S exists in W and S is true in W. In other words, if W were actual, then S would exist and S would be true. By contrast, a sentence is *true at* a possible world W just in case the truth conditions of S are satisfied in W. A sentence need not exist in W in order for it to be *true at* W. The following example illustrates the idea. There is a possible world W in which there are no sentences. The sentence "There are no sentences" is *true at* W, because its truth conditions are satisfied in W, but it is not *true in* W, because it does not exist in W. With that distinction, Merricks states the second alternative account of modal validity. According to the second account,

> …an argument is modally valid just in case its conclusion is true *at* all possible worlds (as opposed to *in* all possible worlds) *at* which (as opposed to *in* which) its premises are true. (Merricks 2015: 14)

This account will also classify the argument from (1) and (2) to (3) as modally valid. For any possible world W, if the sentences "All men

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[2] The distinction between sentence types and sentence tokens might seem to be relevant here. If sentence types exist necessarily, then the conclusion of this inference is necessarily true, and thus the inference is modally valid after all. However, it is doubtful that sentence types exist necessarily. In a possible world in which no one ever speaks English, there are no English sentence types. I am grateful to Trenton Merricks for this point.

are mortal." and "Socrates is a man." are *true at* W, then the sentence "Socrates is mortal." will also be *true at* W. This account correctly classifies the argument as modally valid. It also avoids any commitment to the existence of propositions.

Merricks argues that this account of modal validity leaves out an essential ingredient of that idea. According to Merricks:

> Defenders of the venerable and widespread idea that some arguments are modally valid should all agree that an argument is modally valid only if there is some modal connection between the truth of a modally valid argument's conclusion and the truth of its premises. But the claim that an argument's conclusion is true *at* all possible worlds *at* which its premises are true does not imply that there is any modal connection between the truth of its conclusion and the truth of its premises. So we should deny that an argument is modally valid just in case its conclusion is true *at* all possible worlds *at* which its premises are true. So we should reject the second alternative definition of 'modally valid….
> (Merricks 2015: 16)

This account of the modal validity of an argument does not include any modal connection between the premises and the conclusion of the argument. On this account, the premises and the conclusion of a modally valid argument are sentences. Since sentences have their truth conditions only contingently, there are no necessary connections between the truth of any one sentence and the truth of any other sentence. It follows that, on this account of modal validity, the modal validity of an argument does not involve any modal connection between the premises and the conclusion of a modally valid argument. That does not seem right. I find this argument compelling, but I will not offer any further defense of it here. Rather, I will argue that there is another account of modal validity that is immune to these objections, while also avoiding any commitment to propositions. The alternative is essentially a hybrid of Merricks' two alternative accounts.

Suppose that we combine Merricks' two alternative accounts of modal validity into a single account, as follows.

> (H) An argument is modally valid if and only if: for any possible world W, if the premises have their actual truth conditions, and if the premises are *true at* W, then if the conclusion also has its actual truth conditions, then the conclusion is also *true at* W.

Call this account *The Hybrid Account,* since it is a hybrid of Merricks' other two alternatives. The hybrid account will classify the argument from (1) and (2) to (3) as modally valid. If the sentences "All men are mortal." and "Socrates is a man." have their actual truth conditions, and if these actual truth conditions are satisfied in a possible world W, then if the sentence "Socrates is mortal." also has its actual truth conditions, then its' actual truth conditions will also be satisfied in W. Furthermore, the hybrid account does not imply that the inference from "Electrons exist." to "A sentence exists." is modally valid. If the sentence "Electrons exist." has its actual truth conditions, and if those actual truth conditions are satisfied in a possible world W, it does not follow that the actual truth conditions of the sentence "A sentence exists" are satisfied in W. The actual truth conditions of "Electrons exist" can be satisfied in a possible world without the actual truth conditions of "A sentence exists" also being satisfied in that world. Finally, according to the hybrid account, the modal validity of an argument does obtain in virtue of a modal connection between the premises and the conclusion of the argument. The reason is that the hybrid account, like Merricks' first alternative, holds fixed the actual truth conditions of the sentences involved. If we hold fixed the actual truth conditions of these sentences, then there will be modal connections between these sentences *insofar as they have their actual truth conditions.* These modal connections ground the modal validity of modally valid arguments.

My use of *sentences-with-their-actual-truth-conditions* might raise some eyebrows. Are sentences-with-their-actual-truth-conditions just propositions by another name? If so, then the hybrid account is also committed to the existence of propositions. However, that is not so. The hybrid account makes use of the fact that a sentence S has certain truth conditions C. However, that fact need not consist in a relation between a sentence and some other entity—its truth conditions, which might also sound suspiciously like a proposition. At least on the face of it, the fact that sentence S has truth conditions C might be explicated in a way that does not quantify over truth conditions as distinct entities. The correct analysis will depend on the nature of semantic content, of course, but many theories of semantic content will analyze statements of the form "Sentence S has truth conditions C" in a way that does not quantify over truth conditions.

Such accounts have no need of propositions, or proposition-like entities, at least for the purpose of analyzing the fact that a sentence has certain truth conditions. For instance, consider a teleofunctionalist account of semantic content. On such an account, the fact that sentence S has truth conditions C consists in the fact that S expresses a mental state that was naturally selected because it is nomologically correlated with the fact that conditions C are satisfied. This account does not quantify over the truth conditions of the sentence. Other accounts of semantic content also avoid quantifying over truth conditions as distinct entities.

What if there is no reductive analysis of the fact that sentence S has truth conditions C? What if these facts are primitive, irreducible facts? Even if that were the case, it would not follow that these facts consist in a relation between a sentence and some other entity, its truth conditions. One could certainly argue that the irreducibility of semantic content entails the existence of propositions, or some such entities, but an argument would be required. In the absence of such an argument, the fact that a sentence has certain truth conditions does not self-evidently entail any quantification over truth conditions as distinct entities. Thus, the hybrid account of modal validity does not commit one to the existence of propositions, or anything like propositions.

In the hybrid account of modal validity, the concept of *truth at a world* does much of the heavy lifting. Thus, the hybrid account is acceptable only if that relation is acceptable. There are two, distinct questions here. First, is there an acceptable account of the relation of truth-at-a-world? Second, is there an account of this relation that does not quantify over propositions? In this context, the latter question is the one that matters. If the only acceptable accounts of truth-at-a-world are accounts that make ineliminable use of propositions, then the hybrid account of modal validity also commits us to the existence of propositions. In that case, Merricks' argument would succeed—modal validity requires the existence of propositions. Thus, the relevant question here is whether there is an acceptable account of truth-at-a-world that does not make use of propositions. This question has been discussed at length elsewhere, and I will not

try to resolve it here.[3] Suffice it to say—the soundness of Merricks' argument for the existence of propositions seems to depend on the answer to this question. If there is an account of the relation of truth-at-a-world that makes no use of propositions, then the hybrid account of modal validity will give us modally valid arguments without propositions. However, if there is no account of truth-at-a-world that avoids commitment to propositions, then Merricks' argument appears to be sound after all. Do we need propositions? It depends on the nature of truth-at-a-world.

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[3] McGrath and Frank 2018.