

ON THE NATURE OF PROPOSITIONS AS SETS OF POSSIBLE WORLDS

An Examination of Propositions in Modal Realism

by

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ABSTRACT

While there is broad consensus on the roles propositions can play (they are the bearers of truth values, meanings of sentences, and/or objects of beliefs and attitudes), there is far less consensus on their metaphysical nature. Some philosophers claims that propositions are sets of possible worlds. This thesis examines this claim with a particular focus on modal realism, the idea that these possible worlds are concrete entities of the same sort as the actual world. I examine two problems: first I determine whether sets of Lewisian worlds are the kind of objects we have epistemic access to, and if this alters their ability to take the propositional role. I then compare Lewisian propositions to their structured counterparts to determine if any other theories are more accurate at modeling content. I conclude that the structured propositional view of Jeffrey King solves many of the issue Lewisian propositions encounter while being conservative enough for a modal realist to adopt it with minimal sacrifices.

Chapter 1

INTRODUCTION

1.1 What are Propositions?

Take the sentence, “The stop sign is red.” You may have heard or read such a sentence before. As with most of the sentences you will encounter throughout your life time, this collection of words *means* something. The words are meant to pick out a particular object with a particular property. Thus, when you read the sentence, you think of said object. However, though this sentence is in English, the same meaning could be conveyed in Spanish, German, or any other language on earth. This common meaning is what many philosophers would call a proposition.

To give a more thorough explanation, propositions can function as the bearers of truth values. They are the objects of beliefs and attitudes. They are the meaning of sentences. When we judge a sentence to be either true or false, the thing that has the property of being either true or false is a proposition. Similarly, when the same meaning is expressed in two different languages, the meaning that the two sentences share is a proposition. However, while there seems to be a consensus regarding the structural role of propositions¹, there is much less agreement regarding their

¹ Although there is broad consensus on the structural role propositions play, there is disagreement about whether propositions play every role listed above. For example, on one view, propositions may be the objects of belief and the meaning of sentences, but the bearing of truth values falls elsewhere (e.g. sentences).

metaphysical nature. What sort of objects are they, and how do we know anything about them? The metaphysics of propositions is important for understanding *how* propositions are able to bear truth values and be the meaning of sentences.

The answer to this question varies. Gottlob Frege, one of the first philosophers to begin discussing propositions in the way that we do today, theorized that sentences are combinations of senses and references. A sense is shareable content, somehow accessed through thought. This is what we would call a proposition; the meaning of a sentence is its sense. Furthermore, senses are abstract, mind independent objects. A sentence's referent is its truth value (Beaney, 1997, p. 156-157). An alternative to this theory is that of Bertrand Russell, which suggests that propositions are actually made up of the objects they pick out, rather than being constituents of abstract objects which are somehow related to these objects. Thus, the aforementioned propositions, "the stop sign is red", is made up of the object, the stop sign, the property of redness, and the relation between the two, denoted by the word "is". In short, Frege's propositions are complexes of abstract objects (sense), while Russell's propositions are complexes of concrete objects (the referents of the words in the sentence).

These two theories have sparked two major camps in our contemporary understanding of propositions. Frege's view is lacking in giving a detailed account of what exactly senses are, and how they can take the propositional role. While it is no longer in favor to describe propositions as senses, this sort of thinking led to viewing propositions as collections of similar abstract objects. One particularly prevalent example of this is thinking of propositions in terms of possible worlds, which will be the focus of the rest of the thesis.

Russell's view, on the other hand, is lacking in terms of its ability to explain how exactly the relation between objects works. Take for example, the two sentences "John shot Will" and "Will shot John." These should clearly represent two separate propositions, as they have two very different meanings. Thus, Russell suggests that propositions are objects standing in certain relations to one another. The proposition "John shot Will" consists of John standing in the relation of shooting to Will, which differs from Will standing in the relation of shooting to John. However, in solving this problem, Russell creates another; it is impossible for any proposition to be false on this view. If John is *not* standing in the relation of shooting to Will, this would be an entirely different proposition, rather than the same proposition with a truth value of false (King, 2017). Thus, much of the work in the Russellian camp is geared towards creating an account where propositions can be true and false while incorporating the way in which objects relate to one another.

This thesis is divided into two main problems. The first is the debate between whether or not propositions are concrete or abstract (or in the case of modal realism, abstract-like in terms of relation to the actual world). If propositions are abstract (or abstract-like), it becomes unclear how we can know anything about them. We will refer to this as the epistemic access problem, and we will examine it in great detail in the second chapter. The second issue is whether or not propositions are structured or unstructured. While Frege and Russell agree that they are structured (though Frege thinks they are made of abstract objects and Russell believes they are made of concrete ones), propositions in modal realism are unstructured. While unstructured propositions seem to have certain advantages over their structured counterparts, it isn't clear that these strengths outweigh their weaknesses, as we shall see in Chapter Three.

1.2 Modality and Possible Worlds

The philosophical conception of modality is centered around the concepts of necessity, contingency, possibility, and impossibility. There are several different notions of possibility. For example, according to the laws of the actual world, it is nomologically impossible² for humans to move objects with their minds. According to the physical laws in place in our world, there could never be an instance in which Joe starts walking down the street, hurling cars around telekinetically. We would like to coherently say such things are impossible, and so we have the narrowest sphere of possibility, physical or nomological possibility. This sphere is governed by the physical laws of the actual world. On the other end of the spectrum there is logical possibility, which is governed by the laws of logic (it includes all things that are logically consistent). Also nested within logical possibility are our final two spheres, which are a bit more complex. The first is epistemic possibility, which includes all things consistent with some relevant bit of evidence³. The second is metaphysical possibility, which is governed by the laws of metaphysics. There was no distinction between the two until Saul Kripke entered the scene.

Prior to Kripke's groundbreaking work in *Naming and Necessity* in the 1970s, the distinction between necessity and contingency was considered to be coextensive with the distinction between analytic and synthetic truths respectively. Analytic truths are those which are true by virtue of meaning alone (e.g. tautologies like $a = a$).

² Impossible according to our laws of nature.

³ Because epistemic possibility is dependent upon a given set of evidence, its scope can change depending upon the set of evidence in question.

Synthetic truths are those which are true by virtue of meaning, plus some fact about the world (e.g. “it’s raining outside”, given that it is actually raining outside). Analytic truths were thought to be known *a priori*, or from the armchair, while synthetic truths could only be known *a posteriori*, or through observation. However, Kripke illustrated a clear distinction between the concepts of analyticity, necessity, and a priority showing that some synthetic necessary truths are known *a posteriori* (e.g. “Water is H₂O rather than HO”). His method for doing so is not particularly relevant for our purposes here; what matters is the impact of this distinction on modal logic, which shifted from a focus on analytic necessity to a focus on metaphysical necessity, effectively revitalizing modal talk in the philosophical community. This led to the popularization of possible worlds semantics to describe modal concepts, which Kripke had already used to unify and formalize many of the modal logics being used at the time. Kripke’s possible worlds semantics used the following definitions for necessity and contingency: P is necessarily true iff (if and only if) it is true at every possible world accessible from the world you’re at. P is contingent iff it is true at some possible world accessible from your world⁴. However, Kripke never took this terminology to be literally true (Burgess, 2018, p. 13-14).

⁴ Accessibility here refers to the accessibility relation. Different constraints on this relation allow for different modal logics with different degrees of power on a hierarchy from K-S5. For example, K is the most minimal logic. T, the next logic in the hierarchy, equals K + reflexivity, meaning that every world is accessible from itself. The logics get more complex as more rules are introduced in order to begin to capture larger spheres of possibility (e.g. S5 = K + T + transitivity + symmetry, where transitivity means if y is accessible from x and z is accessible from y, then z is accessible from x, and where symmetry means if x is accessible from y, y is accessible from x).

As with propositions, the usefulness of possible worlds in expressing modal terms led to questions about what exactly the nature of such worlds might be. Here we arrive at the two theories we will be analyzing throughout the rest of the thesis. Both agree that possible worlds exist in some sense. However, they differ dramatically when it comes to the nature of this existence. The first view comes from David Lewis and is typically referred to as modal realism. On this view, possible worlds are the same kind of thing as the actual world. The second comes from Robert Stalnaker. This I will call ersatz realism, terminology coming from Lewis. I do this not to slight the view, but to draw attention to its attempt to reap the benefits of possible world talk in modality without paying the ontological price Lewis pays, namely by treating possible worlds as abstract objects rather than concrete ones just like the actual world. While both are extremely useful in modal application, both run into a litany of problems. The issues we will be focusing on will largely center around the subject of propositions.

1.3 Modal Realism

Modal realism is a rather notorious view, emerging from David Lewis' systematic metaphysics in the 1970s-1980s. The most extensive defense of the view is found in *On the Plurality of Worlds*. It can largely be summed up by the following statement from Lewis: "Are there other worlds that are other ways? I say there are. I advocate a thesis of plurality of worlds, or *modal realism*, which holds that our world is but one world among many" (Lewis, 1986, p. 2). Lewis goes on to say that these worlds have no spatio-temporal connection to each other, meaning that they aren't near or far from each other in terms of space and time. He also claims that the worlds have no causal connection to each other, meaning that no object in one world can

causally affect an object in another, or no world itself can causally impact another (p. 2).

Thus, rather than taking possible worlds semantics as a useful fiction (as Kripke did), Lewis takes it at face-value. His argument for doing so comes from a position of utility; possible worlds talk seems to be invaluable in unifying and formalizing modality. And in his words, “If we want the theoretical benefits that talk of *possibilia* brings, the most straightforward way to gain honest title to them is to accept such talk as the literal truth” (p. 4). As we will later see, Lewis goes on to argue that these benefits cannot be had without the ontological expense of the plurality, thus making the cost worth it despite its unintuitive nature.

The foundation of modal realism is built upon the concept Lewis calls Humean supervenience, which is “the thesis that the whole truth about a world like ours supervenes on the spatiotemporal distribution of local qualities” (1994, p. 473). Thus, a distinct world for Lewis is a unique spatiotemporal distribution of local qualities. These local qualities are simples, meaning that they’re perfectly fundamental. It follows from plausible assumptions that the number of worlds in the plurality is infinite⁵. Worlds can thus be extremely similar, but as long as there is at least one difference in the arrangement of these fundamental qualities, they are distinct.

Since possible worlds are exactly like ours in terms of “realness”, the term “actual world” bears no notion of existence or reality on Lewis’ view. Instead, it is an

⁵ Assuming that it is possible that space is either infinite or continuous in at least one world, or even that it is possible that there is no upper bound on space as it expands, the plurality would be infinite; there would be an infinite number of ways the local qualities could be distributed in said world, and thus an infinite number of worlds.

indexical term with its truth and falsity determined by the location of the agent. In other words, “the actual world” is synonymous with “the world I am in.” Individuals located at other possible worlds are just as correct in calling their world the actual world as we are in calling ours the same. This indexical analysis of actuality is not uncontroversial, as we shall see later.

Returning to our central focus, propositions for Lewis are sets of these possible worlds. In his words, “A proposition is said to *hold* at a world, or to be *true* at a world. The proposition is the same thing as the property of being a world where that proposition holds; and that is the same thing as the set of worlds where that proposition holds” (1986, p. 54). Thus, the proposition, “the stop sign is red” is the set of worlds where that proposition holds, or where the stop sign in question is red. Here, the “proposition holding” simply refers to the world instantiating the property of having a red stop sign. Given Lewis’ concept of Humean supervenience, most of the propositions we would consider to be interesting have an infinite number of. Thus, the meaning of the sentence “the stop sign is red” is actually an infinite set of possible worlds where the stop sign is red⁶. In a sense, this appears to combine Fregean and Russellian ways of thinking about propositions; The constituents of his propositions are concrete objects rather than abstractions, akin to the theories of Russell. However, rather than these parts being the actual objects the words in the sentence denote standing in some relation to each other, Lewisian propositions are entire worlds in

⁶ Propositions for Lewis may be even bigger than infinite sets; they may be proper classes. However, this distinction is not terribly pertinent for our discussion.

which the given property is instantiated, characterization more in kind with Fregean thought⁷.

At first blush, like much of modal realism, Lewisian propositions are quite unintuitive. It does not appear to be the case that when I say I know the proposition “the stop sign is red,” I am actually referring to an infinite set of possible worlds in which the property of redness is instantiated by the object in question. However, if thinking of propositions in this way is useful, the benefits of adopting this theory could trump our intuitions. Thus, we shall spend the rest of this thesis examining the usefulness of Lewisian propositions. Our criteria for usefulness shall be the questions I posed towards the beginning of the chapter: Lewis must explain 1) what propositions are, 2) how they fulfill the various roles surveyed in the introduction, and 3) how we can know them. Henceforth, I will refer to this concept of usefulness as the utility of Lewis’ theory.

In the coming chapter, we shall examine a few hurdles Lewis needs to jump if his theory is going to gain the utility it needs to beat our intuitions. The nature of the plurality creates a few problems that make questions 2 and 3 very difficult for Lewis to answer. Then, in the following chapter we will examine an alternative view which appears to easily solve all of the problems Lewisian propositions run into, while still being compatible with the rest of Lewis’ view.

⁷ Another important difference between Frege and Lewis is that Frege’s propositions are intensional entities, meaning that equivalence does not imply identity. Being sets, Lewis’ propositions are extensional entities.

Chapter 2

THE PROBLEM OF EPISTEMIC ACCESS

2.1 Modal Realism and Causal Theories of Knowledge

As previously mentioned, Lewis' possible worlds have minimal relation to one another; they are entirely isolated. Furthermore, this is necessary on his view, as worlds standing in spatiotemporal and/or causal relation to one another would not be "worlds", but rather parts of a greater world (Lewis, 1986, p. 84). This leads to an epistemic access problem for philosophers who have adopted an epistemology (or theory of knowledge) that requires some sort of causal relation between the knower and the thing known⁸. For such philosophers, there are two fundamental questions. First, can we know it exists? Second, even if we can know it exists in the way Lewis says that it does, can we know anything about it? Understanding these problems requires a more complete explanation of these sorts of epistemologies, which I will now provide.

Causal theories of knowledge emerged as a solution to the Gettier problem. At the turn of the 20th century, it was widely accepted that "justified, true belief" was a necessary and sufficient condition for knowledge. However, in a famous 1963 paper,

⁸ The exact nature of this relation depends on the theory in question; it may be between the agent's mental state and the thing known, or between knowledge and the thing known, or even some combination of the two on views where knowledge *is* a mental state.

“Is Justified True Belief Knowledge”, Edmund Gettier demonstrated that the JTB definition was insufficient by using two examples, one of which I will share here: Smith and Jones are competing for a position. Smith has strong evidence which suggests that Jones will get the position (he has spoken to the recruiter), as well as strong evidence that Jones has ten coins in his pocket (he counted them himself). Thus, he is justified in believing that the man who will get the job will have ten coins in his pocket. What Smith doesn’t know, however, is that *he* will get the job, and he *also* has ten coins in his pocket. Thus, his belief that the man who will get the job will have ten coins in his pocket is both true and justified, but it doesn’t seem to be the sort of belief we would want to call knowledge (Gettier, 1963, p. 122). This shows that there must be additional requirement for knowledge beyond this concept of a “justified, true belief.”

One causal theory of knowledge which we see in response to the Gettier problem is that of Alvin Goldman. In order for X to know Y, in addition to the “justified, true belief” condition, Goldman argued that there must be some underlying causal relation between Y and X’s belief in Y (1967, p. 358). In the case of Smith, though his belief, “the man who will get the job will have ten coins in his pocket,” is justified and true, there is no causal connection between the fact of what has occurred and this belief. While it is causally connected to Smith’s belief that he will get the job, given that he knows of the coins in his own pocket, since he is unaware of the coins in Jones’ pocket, there is no causal relation between this fact and Smith’s belief. Thus, it does not qualify as knowledge in Goldman’s theory. This seems to solve the Gettier Problem, once again giving epistemologists a working definition of knowledge.

While this particular method of solving the Gettier problem is not very popular now, as pointed out by Scott Shalkowski and Otavio Bueno, many epistemologies follow a similar method which requires the knower to have some causal relation to the known beyond justified true belief in order to explain the knower's reliability (2000, p. 4). Given that Lewis' story eradicates the possibility of any such relation between worlds, we wouldn't be able to have such an explanation.

Lewis addresses this issue by drawing a parallel between knowledge of possible worlds and knowledge of mathematical truths, pulling from Paul Benacerraf's dilemma on the subject. According to Benacerraf, "[A] typical 'standard' account (at least in the case of number theory or set theory), will depict truth conditions in terms of conditions on objects whose nature, as normally conceived, places them beyond the reach of the better understood means of human cognition (e.g., sense perception and the like)" (1973, p. 667-68). Like possible worlds, there doesn't seem to be any sense in which we should have epistemic access to the objects that ground mathematics. Lewis goes on to say,

"To serve epistemology by giving mathematics some devious semantics would be to *reform* mathematics... It's too bad for epistemologists if mathematics in its present form baffles them, but it would be hubris to take that as any reason to reform mathematics. Neither should we take that as any reason to dismiss mathematics as mere fiction; not even if we go on to praise it as very useful fiction, as in Hartry Field's instrumentalism. Our knowledge of mathematics is ever so much more secure than our knowledge of the epistemology that seeks to cast doubt on mathematics" (1986, p. 109).

In the same way, the epistemologically perplexing nature of modal realism should not discount its viability. Shalkowski and Bueno take this argument head on in their paper, "A Plea for a Modal Realist Epistemology", where they argue that Lewis' conclusion

is a bit too hasty, claiming that once disambiguated, it is far less convincing than Lewis would have us believe.

The two begin by breaking down Lewis' argument into two interpretations.

The first is as follows:

“Our knowledge of mathematics is ever so much more secure than our knowledge of the epistemology that seeks to cast doubt on mathematics. Likewise, our knowledge of modality is ever so much more secure than our knowledge of the epistemology that seeks to cast doubt on modality” (2000, p. 10).

Intuitively, this seems to be correct. Our knowledge of mathematics is constantly reinforced by its utility when it's applied in physics; we build bridges that don't collapse, planes that don't fall, and make predictions that come true by relying on mathematical principles. There seems to be some sense in which this empirical application is a large part of what makes our knowledge of mathematics so secure. In terms of modality, however, there is no such empirical application, beyond perhaps our everyday use of language involving possibility and necessity. While modal realism is a great model for much of this language, it runs into some issues regarding fine-grained content, an issue we will examine in detail in Chapter 3. This casts some doubt on the equivalence Lewis makes here; while it is clear that our knowledge of math is more secure than our knowledge of epistemology due to its application in empirical fields, it's a bit less clear that our knowledge of modality is much more secure. This may be the case, but Lewis could flush this out a bit more.

Additionally, Shalkowski and Bueno claim that the argument in this form is too broad to support Lewis' claim that modal realism about possible worlds is more secure than the epistemology that seeks to cast doubt on it. The argument in this form talks about mathematics and modality in their entireties, allowing one to remain

agnostic about their ontologies, which is what Lewis needs to convince us of. Our issue is not with the security of modality as a whole, but rather with the security of Lewis' thesis of concrete worlds. Thus, Shalkowski and Bueno give the following interpretation of his argument:

“Our knowledge of mathematical entities is ever so much more secure than our knowledge of the epistemology that seeks to cast doubt on the knowledge of mathematical entities. Likewise, our knowledge of concrete worlds is ever so much more secure than our knowledge of the epistemology that seeks to cast doubt on our knowledge of concrete worlds” (p. 12).

This argument seems far less convincing. As Shalkowski and Bueno rightly point out, our knowledge of mathematical entities is *not* very secure. It is a subject of debate, much like Lewis' plurality. Thus, while Lewis would most certainly convince the “modal realists” of mathematics (more accurately referred to as mathematical Platonists) to embrace his view, his argument seems to have far less sway on those who are agnostic or fictionalists about numbers.

Furthermore, it isn't entirely clear from Lewis' argument why the utility of electrons, the utility of mathematical entities and the utility of possible worlds can all be used to employ the same sort of inference to best explanation argument. Take, for example, my belief in electrons (we'll call it chemical utility). The chemical utility gained from my belief in electrons seems quite different from the utility gained from whether or not I am a mathematical Platonist (mathematical utility). Chemical utility is very clearly tied to the existence of electrons; if there are no electrons (or at the very least, nothing quite like electrons), there should be no utility. However, we experience vast amounts of chemical utility every day through all of the technology we have created based upon our assumption that electrons exist. Thus, we can employ an

extremely powerful inference to best explanation argument and claim that it is reasonable to infer that electrons exist, given all of the utility we have gained from believing that they do. On the other hand, it is far less clear what exactly we're assuming exists when we do math, or if it's necessary to make any explicit assumptions at all in order to get utility from mathematics. If electrons exist, they are concrete objects which have causal interactions with our world. If numbers exist, the nature of that existence is open for debate. If they are not concrete objects which have causal interactions with our world, are we still justified in making an inference to best explanation argument, or can we remain agnostic about their nature while still gaining mathematical utility? In the same way, why is it necessary that we take a hard stance on the nature of possible worlds in order to gain utility from them?

To make matters worse, what is being justified by its utility in each instance is vastly different. In the case of electrons, there are vast amounts of testable data that lead us to believe the world is structured in such a way that electrons exist and operate in the way we think they do. Thus, the scientific utility gained from believing in electrons is largely pragmatic; whether scientists believe in electrons could effectively be a matter of life and death in certain scenarios. In the case of modal realism, however, our pragmatic benefit is in making sense of possibility and necessity; when we say things like, "I could have jumped over that car if I'd worn lighter shoes", Lewis' theory provides us with a way of modeling exactly what this sentence means. It isn't, however, clear that this utility is at all on the same level as the utility gained from believing in electrons; we don't need a model capturing the ins and outs of modality in order to understand the previously stated sentence, or to make use of the concepts of possibility and necessity in everyday life. At the same time, we are

making claims that expand our ontology to include countless worlds just as physical as ours, but isolated in such a way that we have no reason to believe in their existence beyond the value they give us in possible worlds talk, and *couldn't* have any more reason. This claim is vastly more ontologically expensive than the more pragmatically valuable claim that electrons exist in *this* world. At what level does the ontological expense of a theory outweigh its utility? Could this be another objection to Lewis employing the same inference to best explanation argument used for electrons?

This results in three potential objections a philosopher can make, resulting in three separate views which we will examine in the next section. These are ersatz realism, fictionalism, and agnosticism. In order for Lewis to win the day while holding to his utility argument, he must show that none of these views are able to achieve the same utility as modal realism.

2.2 Ersatz Realism, Fictionalism, and Agnosticism

The most popular response to the problem of epistemic access (combined with other issues such as ontological expense) would seem to be taking a more moderate view and treating possible worlds instead as abstract objects. Then, we may have just as much epistemic access to possible worlds as we do to fictional characters⁹. Lewis calls this sort of view modal realism “on the cheap”, or ersatz realism. There are three kinds of ersatz realism: linguistic, pictorial, and magical. Linguistic ersatzists claim

⁹ I use this example because it seems to be widely accepted that we do (or at least should) have some manner of epistemic access to fictional characters. How exactly that works, however, is probably far more complex than I imply or is pertinent to mention in this thesis. In short, it is not the case that embracing an ersatz view *would* eliminate the epistemic access problem, but rather that it *could*.

that possible worlds are maximally consistent sets of sentences (Lewis, 1986, p. 142). Pictorial ersatzists state that worlds are like pictures, representing things in the actual world by isomorphism, meaning that given parts of the abstract world correspond to different parts of the concrete one, or ways the concrete one might have been (p. 166). Magical ersatzists don't say much at all about what their worlds are like, or how they represent things in the actual world. One particularly influential proponent of such a view is Robert Stalnaker, whose theories we will turn to now.

While Stalnaker seems reluctant to be explicit about what he thinks possible worlds are in any formal sense (beyond the assertion that they are abstract), he says a great deal about what he thinks they are not. He agrees with Lewis that they exist, but he disagrees that they are the same sort of thing as the actual world. They are instead elements of the actual world whose existence is inferred or abstracted from our activities (1984, p. 50). Here, Stalnaker makes an important distinction in terminology from Lewis; while he agrees that "actual" can be used as an indexical term in the way Lewis uses it, he also suggests that it can be used in a separate metaphysical sense to denote all the things there are. On this view, rather than the phrase "actual world" being synonymous with "the world I am in", it is synonymous with "reality." Everything there is exists *ipso facto* in the actual world (p. 47). Thus, if possible worlds exist, they must be elements of the actual world according to Stalnaker's definition of the term. Of course, it appears here as though Lewis can simply claim that the entirety of the plurality is actual on Stalnaker's view. To prevent this, Stalnaker goes on to assert that treating possible worlds as concrete objects somehow reduces the reasonability of counterfactual claims, because "It could have been that the

sky was green” expresses the existence of an entire universe where this property is instantiated¹⁰ (p. 49).

At first glance, this seems to avoid the version of the epistemic access problem we have presented above. Since Stalnaker’s worlds are a part of the actual world, there doesn’t appear to be any sense in which we *must* not have epistemic access to them¹¹. However, Lewis rightly points out that Stalnaker doesn’t actually provide any mechanism that explains how these worlds represent things (1986, p. 141). The usefulness of possible world semantics lies in its ability to be used for representing things we care about, like modal talk, counterfactuals, or propositions. As concrete worlds like ours, Lewis’ worlds are able to go about the task of representing in the same manner as the ordinary objects we are surrounded with. Stalnaker’s worlds, on the other hand, are abstract objects and thus require some additional story about how they can go about this task. Of course, it should be noted that it takes Lewis quite a bit of time and effort to give a suitable account for how exactly his worlds do the job of representing.

One thing that is unclear here, however, is how Lewis thinks his worlds fare any better than Stalnaker’s. Consider this simplified form of modal realism: let’s say John is a metaphysician, and he realizes that the way we talk about necessity and

¹⁰ It is not clear here why Stalnaker think this is any different from his view, where “the sky is green” asserts that there is some abstract object which somehow depicts this. Lewis may have room to argue here that this assertion is even *more* unreasonable.

¹¹ While this is true, as previously mentioned, Stalnaker doesn’t escape scot free here. He needs some story as to how we can know anything about these abstract objects. Given that there isn’t much of a story as to what they are in the first place, it isn’t clear to me that he does any better than Lewis epistemologically .

possibility might make sense if there were a Black Veil that is completely isolated from the actual world in the same way as Lewis' worlds. Because John treats the Black Veil as though it exists in the same way as all of the objects he is surrounded by, he is able to treat it just like all of the other things which exist. Furthermore, this Black Veil is metaphysically necessary; either it exists, or it does not. However, it is not epistemically necessary. Since there is no epistemic access to the Veil, John cannot determine its existence given the evidence at his disposal. Imagine two scenarios. In the first scenario, the Black Veil does not exist. Thus, even though John is a realist regarding the Black Veil, in actuality it is only a useful fiction. In the second scenario the Black Veil does exist, and thus John is correct in being a realist about it. Of course, John is always entirely blind as to which scenario he is in.

In this story, given Lewis' own claim that understanding how these objects are able to represent anything gives his theory a leg up over ersatz realism, how does John go about the business of explaining how the Black Veil represent things? Is it a matter of it actually existing as an object like any other in terms of realness? If so, it would no doubt be crucial to John's theory that there be some manner of justification for the existence of the Black Veil. Here, John can follow in Lewis' footsteps by invoking an inference to best explanation argument; based on the evidence John has (in the form of the utility produced by assuming the reality of the Black Veil), he can infer its existence. As we mentioned above, however, it is unclear if inference to best explanation arguments work on these sorts of views. If this doesn't work, John can instead appeal to Lewis' theory of reference magnetism, which could be Lewis' way out as well.

Reference magnetism is a theory in the philosophy of language which asserts that language should be interpreted in such a way that jointly satisfies both the constraints of truth-maximization (meaning that it maximizes the truth of what we've said) and the constraint that referents should as much as possible be the ones that respect the objective joints of nature (Speaks, 2018). Given this, it would seem to follow that the proper interpretation of possible worlds semantics would in part be dependent upon the actual state of things in the world. Lewis may then use this to construct a story as to how taking possible worlds at face-value is a more accurate interpretation of possible worlds semantics than ersatz realism.

This sort of argument could also kill any sort of fictionalist view, where possible worlds are just useful fictions that make sense of reality but are not themselves "real". It is important to note that this sort of view is distinct from ersatz realism; treating worlds as abstract parts of the actual world and treating them as a useful fiction are not necessarily the same thing. They *could* be similar; I have intentionally refrained from saying anything about what quantifying over fictional worlds would mean. They may be abstract objects as well, or nonexistent objects. In Lewis' defense, treating worlds as a useful fiction could open the door to other controversial metaphysical views that leave the philosopher with a whole new range of troubles. Still, these are troubles one must address when dealing with fiction of any sort, and treating possible worlds as real won't eradicate all of the other fiction we heartily accept as such, so there may not be any sense in which this is extra problematic.

However, it isn't quite clear that this sort of argument does away with the third and final option, agnosticism. While Lewis may be able to show that the concrete

existence of worlds matters when it comes to gaining utility from them, it is slightly less clear as to how our attitude towards them affects this utility. Were we to assume that the plurality exists in the way Lewis claims that it does, and John were to remain agnostic about its existence, there doesn't seem to be any sense in which the utility of the theory is impacted¹². Were John to build a working suspension bridge without any knowledge of the debate surrounding the nature of numbers, he would still gain the utility of mathematics. In the same way, the impact of Kripke's possible worlds semantics on modal logic doesn't seem to require an expansive interpretation in order to be felt. Because of this, it does not appear to be the case that Lewis' utility argument as it stands prevent agnosticism regarding possible worlds.

Here, a possible response from Lewis could be claiming that agnosticism on the nature of possible worlds is not the preferred solution to the problem of determining what exactly we're quantifying over when we use possible worlds semantics. It may be the pragmatic response, but it would seem to be the case that the aim of metaphysics is to move *away* from agnosticism, not towards it. Lewis makes moves like this when refuting another alternative to modal realism which we will examine next: taking modalism as a primitive. He claims that this is no theory, but rather the "abstinence of theorizing" (1973, p. 85). Were agnosticism to stop here, that could be a compelling objection. However, Shalkowski and Bueno do quite a bit of

¹² It's arguable that were John to somehow build a suspension bridge without any knowledge of math or physics at all, he could still gain utility from it, assuming that there actually are physical laws in the world. Gaining utility from science seems to only involve making use of its theories and laws, which are meant to capture objective facts about the world. Given that they're objective facts, there doesn't seem to be any sense in which knowledge of those laws is required.

theorizing beginning from this assumption, formalizing this agnostic assumption and then attempting to build a working theory of modality without any stance on the nature of possible worlds. We will examine this theory in the next section.

2.3 Modalism: An Agnostic Modality

Where Stalnaker attempts to have his cake and eat it too by asserting that possible worlds exist in the abstract sense, Shalkowski and Bueno put forth a view that suggests we don't need any particular stance on the nature of possible worlds in order to make sense of modality. This greatly undermines the power of Lewis' utility argument, which rests upon the idea that since we need such a stance, modal realism is the best of all current interpretations. Shalkowski and Bueno's argument hinges upon a disagreement on the interpretation of possible worlds semantics. Kripke was a fictionalist; possible worlds were nothing more than a useful fiction on his view. Lewis takes the stance that they're concrete. Shalkowski and Bueno claim that their nature is not important, instead taking necessity and possibility as primitives.

The two begin by asserting that Lewis' argument for the theoretical utility of modal realism is flawed, due to the fact that he attempts to link pragmatic and epistemic concerns (2014, p. 674). Many of the pragmatic benefits Lewis claims give him a leg-up over rival theorists actually depend upon the truth of his theory (a fact we briefly touched on in the previous section in our Black Veil case). For example, a theory that unifies diverse phenomena to one underlying phenomenon only has more value than a theory that does not do so if we have some reason to believe it is the actual state of things that this underlying phenomenon exists. If we have no such reason, regardless of the unifying force of the theory, we are question begging against the theories which treat the phenomena as diverse (2014, p. 675). Similar arguments

can be made in terms of other pragmatic benefits a theory can yield, such as simplicity and expressiveness.

They then go on to show that it is not at all necessary for us to take a hard stance on the nature of possible worlds to make sense of modal talk in a formal proof I will only briefly cover here (see Shalkowski and Bueno 2014). More specifically, the idea that worlds are concrete is an “unnecessary addition to any prior modal theory we might have and might wish to systematize when we move from merely implicit assumption to explicit theory” (p. 675). This is because possible worlds theory is conservative with respect to modal claims that do not directly involve possible worlds, meaning that it is consistent with every internally consistent set of modal claims that say nothing about the existence or structure of possible worlds (p. 675). Shalkowski and Bueno then go on to assert that because possible worlds theory is conservative, for every set M of modal claims and for every modal claim x , if x is a logical consequence of $M + PW$, then x is a logical consequence of M alone. In other words, no new information is generated by applying the claim that the plurality exists to modal claims that contain no reference to possible worlds. Thus, asserting the plurality’s existence gives us no new information on necessity and possibility, the sort of modal claims that we most often care about. Its virtues are only expressive; it just gives us information about the nature of possible worlds (p. 677). This allows a metaphysician to remain agnostic about the nature of possible worlds and still have a working modal system.

Unless there is some error in Shalkowski and Bueno’s proof, this seems quite destructive for Lewis. However, he is not without an escape. Shalkowski and Bueno’s view does not do away with the use of possible worlds in our metalanguage. All Lewis needs is some way to assert that worlds must be concrete in order to make sense of

this. Perhaps Lewis can again utilize his reference magnetism argument here and claim that there is some sense in which we need to treat these worlds as concrete to be coherent here. This seems doubtful without some certainty that we would be stating some objective fact about reality by assenting to their existence. If there is no plurality, we aren't respecting the objective joints of nature in our interpretation of possible worlds semantics. Shalkowski and Bueno then go on to discuss what exactly a theory of modality that takes possibility and necessity as primitives could look like. This has little bearing on our discussion on propositions, so I will forgo an explanation of it and examine how the epistemic access problem affects Lewis' theory of propositions specifically.

2.4 Lewisian Propositions and Epistemic Access

Returning to our focus on the metaphysical nature of propositions, as we have previously seen, Lewisian propositions are sets of possible worlds. For example, take the sentence, "Richard could have been small." On Lewis' account, the proposition that this sentence expresses is the infinite set of worlds where Richard's counterparts all have the property of smallness. Here, Richard is represented *in absentia*; he himself is in the actual world, and by virtue of the sentence we can assume that he is not small. However, because his counterparts share this property of smallness, given the relation of similarity between worlds, it seems that we can ascertain the truth of the statement "Richard could have been small" (1986, p. 196). The more similar things that there are between worlds, the easier it would seem to be to construct some sort of story in which Richard's counterparts can accurately represent him. While this is incredibly useful for making sense of counterfactuals, it creates some other problems.

The most intuitive of these is a problem of identity (though Lewis would deny this [1986, p. 192]). Lewis' Humean supervenience makes it clear what makes one world distinct from another; as stated in the previous chapter, the entire truth of a world is the spatiotemporal distribution of local qualities. On the other hand, it is less clear as to what picks out distinct individuals across worlds. What characteristic about the counterparts of Richard qualify their worlds as being members of this infinite set? Lewis claims the individuals are in some way tied to their counterparts by "resemblance" (1973, p. 87). The exact nature of this resemblance is incredibly vague, however. For example, does the proposition "Richard is small" only pick out worlds where Richard is 5'1", as he is in the actual world? Or do they also pick out worlds where he is 5'0", 4'9", and so on? If there is some possible world where a counterpart of Richard is short but has twelve fingers on each hand, would he also be an element of this set? There is a sense in which it is unclear how similar is similar enough to qualify.

This issue of vagueness is not unique to modal realism, and Lewis is not without a potential solution. On his definition of the counterpart relation, a thing in world *a* is a counterpart of *x* iff it resembles *x* more closely than any other object in world *a*. If pressed regarding what exactly counts as resemblance, Lewis can hide behind his contextualist epistemology. On this view, *x* knows proposition *P* iff *P* holds in every possibility not eliminated by *P*'s evidence, except for those possibilities which *x* is warranted in ignoring (1996, p. 566). These possibilities are eliminated by a series of rules which Lewis describes in detail in his paper on the subject, "Elusive Knowledge." One of these, the Rule of Attention, states that a "possibility that is not ignored is *ipso facto* not properly ignored" (p. 559). This causes knowledge to be

elusive; in many cases we have it until we question whether or not we do, and then we provide ourselves with possibilities which we must refute with our evidence. The reliability relation could be an example of this; it could be the case that its vagueness effectively *gives* us knowledge of what counts as resemblance and what does not, and we only lose this knowledge when we assert the possibility that the relation is more complex than we assume it to be. We don't seem to have much of an issue determining what things stand in resemblance relation to one another in the actual world, so there doesn't seem to be any reason why things should suddenly become more difficult across worlds.

Returning to the original problem of epistemic access, It isn't clear that it is extremely pressing for Lewis on the issue of propositions. While our epistemic access to the elements of a proposition are limited (this would be an issue even if there were no epistemic access problem, as many of the propositions that we care about have an infinite number of elements, and no function is provided which could give us some grasp of the proposition in its entirety), what we do have epistemic access to seems to be enough for us to determine the truth values of the propositions we care about. For example, I can ascertain the truth value of the proposition "Richard is small" by examining whether or not it is instantiated in the actual world. If it is, the proposition is true, and if not, it is false. In the case of counterfactuals ("Richard could have been small"), I can use the aforementioned similarity relation to ascertain its truth value, extrapolating from things like the laws in the actual world, the resemblance between Richard and his other-worldly counterpart, etc. It would appear to be the case that Lewis has enough to build a suitable theory of propositions even with the epistemic access problem.

Still, as mentioned in Chapter 1, there are two potential issues with sets of worlds as propositions. While Lewis fares pretty well against the first, the second provides some fairly compelling objection. In the next chapter, we will explore these objections in order to determine whether or not sets of worlds are good candidates for the propositional role, and then explore a far more intuitive theory that solves many of the problems sets of worlds as proposition face while remaining consistent with the rest of modal realism.

Chapter 3

UNSTRUCTURED VS. STRUCTURED PROPOSITIONS

3.1 Problems with Sets of Possible Worlds as Propositions

As mentioned in Chapter 1, the second problem modal realism faces is the debate of structured vs. unstructured propositions. While Frege and Russell disagreed about whether propositions are abstract or concrete, both believed that propositions were structured, meaning that propositions have parts or constituents bound together in a certain way (King, 2017). Lewis' assertion that propositions are sets of worlds is a type of reductionism, in which propositions are reduced to sets of possible worlds. Ersatz views are reductionist as well. These views are unstructured, meaning that they don't have constituents. Proponents of the structured view provide several arguments against reductionist propositions, creating an entirely different battle for modal realists to fight. The central claim is that sets of worlds are not good candidates for propositions because they lack the structure to fully play the propositional role. We will spend the remainder of this chapter engaging with this concept.

One particularly successful combatant against reductionism is George Bealer. He gives several influential arguments against explaining propositions in terms of possible worlds. However, since Bealer attacks possible worlds reductionism with a very broad brush, not all of his arguments apply to Lewisian propositions. For example, Bealer's first problem is quite similar to Russell's Paradox. He asserts that it is necessary that some proposition is necessary. Such a proposition would have the property of being a necessary proposition. For Bealer, a property is a function from

individuals (in this case possible worlds) to propositions. Thus, the aforementioned property would be the function from possible worlds to the set of necessary propositions. This is, however, a problem because this set of necessary propositions includes the proposition “some proposition is necessary.” Furthermore, this proposition is itself a set, which contains the property of being necessary as one of its elements. Thus, the property of being necessary is an element of itself (1998, p. 6).

Here lies an important distinction between Lewis and Bealer’s views: As previously stated, Bealer’s properties are functions from individuals to propositions. Properties for Lewis, on the other hand, are not functions but sets of instances. For example, the property of being a donkey for Lewis is the set of all donkeys, across all worlds (1986, p. 50). Furthermore, Bealer’s reductionist propositions are functions from sets of worlds to truth values, thus creating a distinction between propositions and properties. Lewis, on the other hand, states that propositions are just properties instantiated by entire worlds. Thus, just as properties are sets of instances, propositions are sets of worlds (1986, p. 53). This removes the problem: the proposition “some proposition is necessary” is the set of worlds which instantiate this property. Since it is a necessary truth, this would just be the set of all worlds. But the set of all worlds is not an element of itself, so Bealer’s problem never arises.

However, Lewis does not escape so easily from all of the problems Bealer puts forth. For example, Lewisian propositions run into the problem of fine-grained content. Given that propositions are sets of worlds, and necessary truths hold at all possible worlds, as stated above, a necessary Lewisian proposition is the set of all worlds. However, there is only one such set, which seems to imply that there is only

one such proposition. Thus, $a = a$, $2 + 2 = 4$, and “water is H₂O” are all the same proposition on Lewis’ view.

It isn’t impossible to construct some story in which this makes sense. It could be the case that our intuitions are mistaken, and that all of these necessary truths actually do express the same proposition. However, it is most certainly a limitation of the view. It certainly seems plausible to say something less extreme, like all tautologies express the same proposition. Perhaps it’s possible to render every necessary truth down to some tautological form, or some other base form that seems essentially the same. However, to claim that a tautology expresses the same meaning as a synthetic truth known *a posteriori* like “water is H₂O” seems to be false, and sacrificing this intuition when there are alternative views which make room for it would seem unwise, provided they can do much of the work that Lewisian propositions are able to do.

Jeffrey King also provides some compelling objections to viewing propositions as sets of worlds. King claims that possible worlds content requires one to close belief and knowledge under logical consequence by trivially believing in the necessary proposition, and trivially not believing in the impossible proposition (2018, p. 7). In clearer terms, as discussed previously, the necessary proposition for Lewis is the set of all worlds. Since necessity and possibility are explained in terms of worlds, the necessary proposition exists by definition. This, however, seems wrong; it seems to be the case that one could non-trivially believe a necessary truth or non-trivially fail to believe an impossibility.

It should be quite clear to the reader at this point that Lewisian propositions have their fair share of problems. Of course, as we saw earlier in the epistemic access

problem, this is only relevant if there is some alternative which is able to do all of the same work without these problems (or better yet, without problems of equal weight, as an alternative theory could have an entirely new set of problems that are just as damning). Fortunately, King presents just that. To make things even better, there doesn't seem to be any sense in which King's view is inconsistent with Lewis' theorizing outside of propositions, which would make it a suitable alternative even for proponents of modal realism.

3.2 King's Structured Propositions

In order to understand King's view, let's take the sentence "Rachael cooks." This sentence is made up of two lexical items, "Rachael" and "cooks." King calls this the "sentential relation" between these two lexical items. In this particular sentence, we understand that the sentential relation R ascribes the lexical item "cooks" to the lexical item "Rachael." Thus, if Rachael does not cook, this sentence is false, and if she does, this sentence is true (King, 2014, p. 49). King goes on to say that the fact that the sentence is interpreted in such a way that truth values are ascribed as previously mentioned is contingent; a language could exist in which "Rachael cooks" is interpreted in such a way that it is true iff Rachael does *not* cook. As to why English speakers interpret sentential relations in the way they do, King has no strong stance. He does, however, suggest that it could be connected to the way our brains allow for language acquisition, thus making it a common feature in all human languages (p. 49).

This common interpretation of the sentential relation R leads to what King calls the propositional relation, which is described as follows: in a given context, n lexical items standing in sentential relation R to one another also stand in reference relation to n objects in the actual world (p. 50). Returning to our example, in a specific

context (which is needed in order to determine how R is interpreted), lexical items “Rachael” and “cooking” stand in sentential relation to one another. “Encoding ascription” is King’s shorthand for our process of interpreting R. The sentential relation is expressed in the figure below.

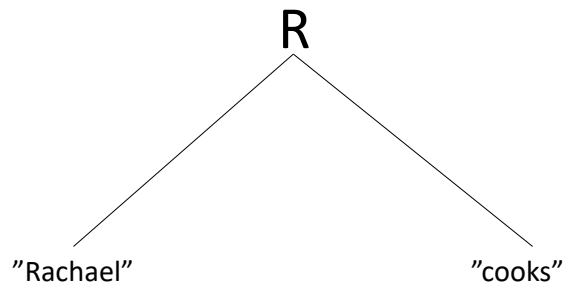


Figure 3.1

Of course, when we read this sentence, we interpret a relationship between the individual, Rachael, and the action of cooking. King goes on to define a “fact”, which is an object possessing a property, or n-objects standing in an n-place relation, or n-properties standing in an n-place relation, etc. (p. 50). Thus, a proposition on King’s view is a fact consisting of objects or properties standing in a propositional relation. In our case, the proposition “Rachael cooks” consists of the object Rachael standing in

propositional relation to the property of cooking. Figure 3.2 is a diagram of the final proposition.

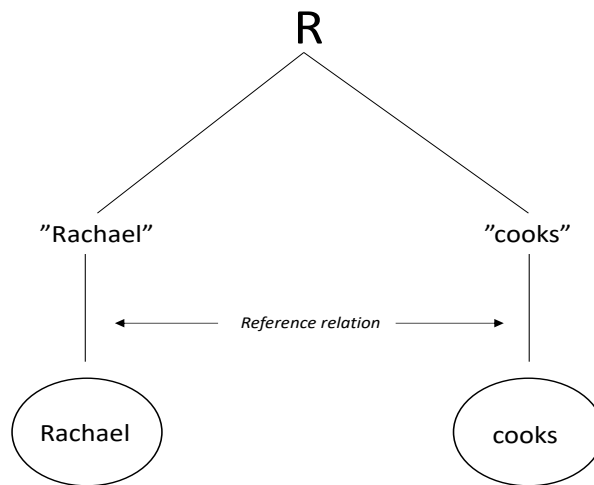


Figure 3.2

As we can see, King's theory of propositions is rather similar to that of Bertrand Russell mentioned at the beginning of the paper, but he has managed to solve the problem Russell could not. Take the two example sentences from earlier, "John shot Will" and "Will shot John." Russell's attempt to differentiate between the two propositions these sentences would pick out was unsatisfactory (it led to an inability to call any proposition false), but King is able to do so with ease. In each proposition,

John and Will stand in different relations to one another, just as in Russell's case. However, rather than the proposition being this relation, the proposition is the *fact* consisting of Will and John standing in this relation. Thus, King's propositions capture the relationship of the two objects in question while still maintaining its ability to have truth conditions. If Will and John are not standing in this relation, the proposition is false. If they are, it is true. On Russell's view, if Will and John are not standing in this relation, it is an entirely new proposition.

When contrasted against Lewisian propositions, King's propositions also appear to have an upper hand. First, they are far more intuitive; rather than the meaning of a sentence being an infinite set of concrete worlds where the property the sentence denotes is instantiated, it is a combination of relations between lexical items and the objects picked out by them. This seems far closer to what we think we mean when we talk about the meaning of sentences and the bearers of truth values. There doesn't appear any sense in which we need infinite sets of worlds to make sense of these things, or any sense in which infinite sets of worlds are better at representing the meaning of sentences than King's alternative. In fact, given the many problems we have seen, sets of worlds may be a great deal worse.

King's propositions also do not suffer from many of the issues we have mentioned up to this point. Whether or not one is agnostic about the nature of possible worlds is of no consequence here. King's propositions are also able to deal with Bealer's finely-grained content; " $a = a$ " and "water is H₂O" are separate propositions on King's view since they are made up of different objects standing in different relations to one another and thus forming different facts. Furthermore, because the sentential relation involves interpretation, the difference between necessary

propositions should follow our intuitions; we will interpret the equivalence relation between a and itself in one way, and we have the freedom to interpret the equivalence relation between water and H₂O slightly differently¹³.

King of course circumvents his own worry of trivializing all belief and knowledge of necessary or impossible propositions, since his notion of a proposition is not described in terms of possible worlds. The only issue where structured propositions don't appear to have an immediate leg up over their unstructured alternatives is on epistemic access. We have no story as to how we have epistemic access to the sentential relation R . While this lack of access is not built into the definition of King's propositions as it is with Lewis' (due to Lewis' definition of worlds), it does not immediately follow that King is able to avoid the worry entirely. Still, it seems that it is worthwhile to ask why the modal realist should not exchange the Lewisian proposition for the King proposition. How much would a philosopher of this sort have to sacrifice in order to do so?

Fortunately for Lewisian philosophers, King's theory is fairly conservative. Should the modal realist not be swayed by any of the problems mentioned in this thesis, they could exchange Lewis' propositional view for King's without sacrificing anything else. Lewis points something like this out in a brief description of how structured propositions might work in his view. While he seems wary of fully

¹³ This might be good and this might be bad. We may not want intuition to impact propositions this much. Is there any sense in which common interpretation of a relation can be wrong on King's view? What if there really only is one necessary proposition, but no one recognizes it as such? King's view doesn't appear to allow for this.

assenting to the concept of structured propositions fully fulfilling the propositional role, he concludes that a structured view is compatible with his account, stating, “[T]here is no contest between structured and unstructured versions of the properties, relations and propositions. Given the combined resources of set theory and modal realism, we... suitable candidates to fill both versions of the roles associated with the terms ‘property’, ‘relation’, and ‘proposition’”(1986, p. 59). Of course, should a modal realist not be swayed by any of the problems mentioned in this thesis, they likely would see no need to exchange the Lewisian propositional view for another.

It should be noted that King’s view has some potential issues which Lewis manages to avoid entirely. For example, as previously stated, because King’s propositions are made up of objects standing in propositional relation to one another, and since this propositional relation consists of the sentential relation R , King’s propositions are language-dependent. Without any language, there can be no sentential relation. Many philosophers consider this problematic; intuitively, it would seem to be the case that the meaning behind “the mountain is tall” would exist whether or not anyone was around to talk about it or not. Language or no, there would still be a mountain of a certain height.

I, however, do not find this issue to be very compelling. First, it seems to me as though meaning is at the very least mind-dependent. Meaning does not exist in a vacuum; a thing means something *to* another thing. In other words, meaning is a relation between n objects and n rational minds. Without a rational mind for some object to mean something to, it does not appear to me that we are talking about meaning at all, but rather some other relation between objects (e.g. a property relation). On this sort of view, while the mountain still has the property of being a

certain height¹⁴, there is no *meaning* to the sentence “the mountain is tall” without some rational mind standing in meaning relation to the mountain. Here, King’s view has the advantage over Lewis’, as it allows for this mind-dependent treatment of meaning. Should meaning be mind-dependent, it follows that if propositions are the meanings of sentences, they should also be mind-dependent. The leap from mind-dependent propositions to language-dependent propositions is likely not as far as that from mind-independent propositions to language-dependent ones.

The more compelling worry for me is that all languages must have the sentential relation R in order to express King’s propositions. Any language that does not have this sort of relation does not express King’s propositions. While on first blush this appears to be a great weakness that Lewis does not have (since Lewis’ propositions are language-independent, any language can express his propositions by default), it may not be as damning as it looks. First, as previously mentioned, while King remains pretty quiet on this issue, he does suggest that R could be a consequence of the language acquisition process. Were this the case, R could be the result of our brain structure, making it universal unless there is some significant change in our anatomy. King could also argue that in the case that there is some language *x* which has relation Q rather than R, language *x* may have different propositions than language *y* containing the R relation. This could actually be a benefit for the view, as it isn’t

¹⁴ “Tallness” seems to have the similar sort of problem as “meaning”; its meaning is both relative and arbitrary, making it only coherent with some rational mind giving it definition. In other words, it has other minds built into its definition (a thing is not tall without being tall *to* someone), thus making it mind dependent as a concept as well. This should not be shocking; language first and foremost is a tool of communication, so there are many mind-dependent words.

entirely clear that languages x and y *should* share propositions. We have many examples of words which have no direct translations. King's view may be detailed enough to allow us to begin to accurately model some of these differences. The only question is whether or not the sentential relation is an accurate marker for determining the sort of propositions a given language expresses.

If some of the worries in this account were to cause a realist to jump the proverbial ship, there would be some additional sacrifice. Lewis also describes properties and relations in terms of possible worlds; they are both sets of their instances, both this-worldly and other (p. 52). Thus, the problem of epistemic access would likely apply to properties and relations as well. Of course, the problem of epistemic access seems to strike at the core of modal realism, so it is unclear how one could be swayed by this issue and still cling to realism. All of the other issues are tied only to the conception of propositions as sets of worlds, concrete or abstract, so the realist could keep defining properties and relations as sets of their instances and still adopt King's propositions.

REFERENCES

- Bealer, G. (1998). Propositions. *Mind* 107(425), 1-32.
https://www.jstor.org/stable/2659805?seq=1#page_scan_tab_contents
- Beaney, M. (1997). *The Frege reader*. Oxford: Blackwell Publishing.
- Benacerraf, P. (1973). Mathematical truth. *The Journal of Philosophy* 70(19), 661-679.
http://thatmarcusfamily.org/philosophy/Course_Websites/Math_S08/Readings/Benacerraf.pdf
- Burgess, J. (2019). Kripke on modality. *Routledge Handbook of Modality*. Milton Park: Taylor & Francis Group. Forthcoming.
- Gettier, E. (1963). Is justified true belief knowledge? *Analysis* 23(1), 121-123.
<http://www-bcf.usc.edu/~kleinsch/Gettier.pdf>
- Goldman, A. (1967). A causal theory of knowing. *The Journal of Philosophy* 64(12), 357-372. http://faculty.arts.ubc.ca/rjohns/goldman_causal.pdf
- King, J. C. (2007). *The nature and structure of content*. Oxford: Oxford University Press.
- (2007). What in the world are the ways things might have been? *Philosophical Studies* 133(3), 443-453.
https://www.jstor.org/stable/40208690?seq=1#metadata_info_tab_contents
- (2014). *New thinking about propositions*. Oxford: Oxford University Press.
- (2017). Structured propositions. *The Stanford Encyclopedia of Philosophy* (2017 edition). <https://plato.stanford.edu/entries/propositions-structured/>
- (2018). Unstructured Content. Forthcoming.
- Lewis, D. (1973). *Counterfactuals*. Oxford: Blackwell Publishing.
- (1986). *On the plurality of worlds*. Oxford: Blackwell Publishing.

- . (1994). Humean supervenience debugged. *Mind* 103(412), 473-490.
https://www.jstor.org/stable/2254396?seq=1#page_scan_tab_contents
- . (1996). Elusive knowledge. *Australasian Journal of Philosophy* 74(4), 549-567. <https://fitelson.org/epistemology/lewis.pdf>
- Russell, Bertrand. (1903). *The Principles of Mathematics*. Cambridge: Cambridge University Press.
- Shalkowski, S. A. and Bueno, O. (2000). A plea for a modal realist epistemology. *Acta Analytica*, 24(24), 175-194. <http://eprints.whiterose.ac.uk/3354/>
- . (2014). Modalism and theoretical values: towards an epistemology of modality. *Philosophical Studies*, 172(3), 671-689.
<https://miami.pure.elsevier.com/en/publications/modalism-and-theoretical-virtues-toward-an-epistemology-of-modal>
- Speaks, J. (2018). Theories of meaning. *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.),
<https://plato.stanford.edu/archives/win2018/entries/meaning/>.
- Stalnaker, R. C. (1984). *Inquiry*. Cambridge: The MIT Press.
- . (2003). *Ways a world might be*. Oxford: Oxford University Press.