The Limits of Modality

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It is commonly assumed that all propositions have modal profiles and therefore bear their truth-values either contingently or necessarily. In what follows, I argue against this commonly assumed view and in defense of *amodalism*, according to which certain true propositions are neither necessarily nor contingently true, but only true *simpliciter*. My defense of amodalism proceeds indirectly. I begin by considering three arguments against *possible worlds theory*, which holds that modal concepts are to be analyzed in terms of possible worlds. Although each of these arguments targets a different version of possible worlds theory, these versions jointly exhaust the entire range of possible worlds theories. So, after showing that each argument is naturally addressed by adopting amodalism, I argue that all defenders of possible worlds theory ought to accept amodalism.

§1. Introduction

Propositions have modal profiles. Some are necessarily true. Some are necessarily false. Others are merely contingent. In many cases, these modal profiles are of considerable metaphysical interest. It is, for instance, no small matter whether the proposition that water is H_2O is metaphysically necessary or merely contingent. In addition to our interest in the modal profile of specific propositions (e.g., properties like *being necessarily true*, *being necessarily false*, or *being contingently true*), there are also broader questions regarding the relation between propositions and their modal profiles. One question of this sort is whether all propositions have modal profiles and therefore instantiate modal properties like *being necessarily true*.[1]

It will be helpful to begin by distinguishing two answers to this question. According to what I will call *modal generalism*, modality is *perfectly general* insofar as every proposition has some modal profile and will therefore have its particular truth-value either necessarily or contingently. A competing answer, which I will call *amodalism*, is the negation of modal generalism. It holds that modality does not enjoy perfect generality. Intuitively, then, amodalism allows for true propositions that are neither necessarily true nor contingently true, but only true *simpliciter*.

This commitment to *amodal* propositions—propositions that bear truth-values, but lack modal profiles—can be illuminated by an analogy with what I will call *atemporalism*, which holds that certain *atemporal* propositions bear truth-values, but lack temporal profiles (e.g., properties like *being eternally true*, *being eternally false*, or *being temporarily true*).

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[1] Our concern here is with metaphysical modality rather than deontic or epistemic modality.

In what follows, I defend amodalism and the existence of amodal propositions. My defense proceeds indirectly: I begin in Section Two by considering three arguments against *possible worlds theory*, which aims to analyze our modal concepts in terms of possible worlds. Although each of the arguments I consider targets a different variety of possible worlds theory, these varieties—reductionism, ersatzism, and concretism—jointly exhaust the entire range of possible worlds theories.[2] So, after showing that each argument is naturally addressed by adopting amodalism, I argue that all defenders of possible worlds theory ought to adopt amodalism. After presenting my case for amodalism in Section Two, I address several challenges that issue from modal logic, semantics, and rival modal metaphysics in Section Three. I then conclude in Section Four.

Before proceeding, let me mark possible worlds theory as an unargued assumption of what follows. This assumption is motivated primarily by the analytic utility of possible worlds.[3] Not only do possible worlds furnish us with analyses of *de dicto* and *de re* modality, they also provide the resources to make sense of numerous semantic concepts, render theses of supervenience intelligible, and do an otherwise remarkable amount of metaphysical heavy-lifting. Despite these virtues, a commitment to possible worlds theory does remain contentious.[4] Even so, I help myself to it here and revisit its status in Section Three. Note, however, that I make no assumptions about the specific ontological status of possible worlds. Indeed, the strength of my case for amodalism turns on its indifference to the particular kind of possible worlds theory one might prefer.

§2.1. An Argument Against Reductionism

The first argument I will consider targets reductionist possible worlds theories. These theories aim to reduce or analyze our modal concepts like necessity and possibility in terms of possible worlds and without appeal to unanalyzed modal concepts. Reductionism is therefore properly contrasted with primitivist possible worlds theories, which view some modal notion (e.g., possibility or necessity) as an unanalyzable conceptual primitive. Despite

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[2] While these varieties exhaust the space of possible worlds theories, they also overlap one another. For example, the modal realism defended in Lewis (1986) is both reductionist and concretist. This is because reductionist views are distinguished by the conceptual status they assign modal notions, while concretism and ersatzism are distinguished by the ontological status they assign possible worlds.

[3] For an extensive catalogue of the utility of possible worlds, see Lewis (1986: 1-96).

[4] Opponents of possible worlds theory include Jubien (2009), Prior and Fine (1977), and Armstrong (1989).

this disagreement, primitivists and reductionists both maintain that possible worlds are of sufficient theoretical utility to warrant our commitment.

In the course of arguing against possible worlds theory, Shalkowski (1994) presents a powerful argument against reductionism:[5]

> According to modal realism, the existence of a group of objects, the possible worlds, is supposed to be the foundation for modal truths. The existence and natures of these worlds is the primitive feature of modal reality, while the necessities and possibilities are parasitic on the nature of the set of worlds. Possible worlds must constrain facts of modality; facts of modality must not restrict the number and nature of possible worlds. Were God creating the entire Lewisean plurality of worlds, there would be no modal restrictions on God's act of creation. Without the worlds, there are no modal truths. The states that distinguish the modal truths from the modal falsehoods would not exist. To say that God had no choice as to which or how many worlds to create is to say that there *are* modal constraints on the number and nature of possible worlds, and this is tacitly to give up the reductive features of the modal realist's program. To admit constraints on the number and nature of worlds is to contradict the reductive modal realist's hypothesis that the existence of worlds is the prior, or more basic, feature of reality and modality the posterior, or less basic, feature.[6]

Shalkowski's objection turns upon the analytic role that reductionism assigns to the space of all possible worlds, which we can refer to here simply as "logical space".

Within logical space, each possibility is identified with some set of possible worlds. Maximal possibilities or "total ways for the world to be" are identified with singleton sets of possible worlds (i.e., sets that contain only a single world). For example, the possibility that trees sprout leaves is identified with the set of possible worlds according to which trees sprout leaves. In addition, necessary truths are identified with the set of all possible worlds, while impossibilities are identified with the empty set.[7]

Granted the framework of logical space, Shalkowski's argument is straightforward: Suppose that logical space includes *n*-many possible worlds. Now consider the possibility that logical space might have included less than *n*-many possible worlds. Since the reductionist purports to explain modal facts (e.g., facts about what is necessary) in terms of

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[5] Shalkowski presents this objection as an argument against concretism, but the ontological status of possible worlds plays no significant role. Instead, it is the analytic role that reductionism assigns possible worlds that is at issue. We are therefore best served to treat Shalkowski's argument as targeting reductionism.

[6] Shalkowski (1994: 675-676).

[7] For present purposes, I set aside worries about the identification of all necessary truths with the same set.

logical space, she cannot claim that logical space *must* be such that there are *n*-many possible worlds. Furthermore, the reductionist cannot claim that logical space is only *contingently* such that there are *n*-many possible worlds. This is because, for the reductionist, modal facts—facts about what must or might be the case—are ontologically and conceptually posterior to facts about the "shape" of logical space (e.g., the cardinality of the set of all possible worlds). So, once we inquire into the modal status of propositions about the shape of logical space, the reductionist is hamstrung. She cannot claim that logical space must be as it is, nor can she claim that logical space could have been otherwise.

If Shalkowski is correct, the reductionist lacks the resources to analyze modal claims about logical space. But, since the reductionist holds that all modal facts are to be analyzed via possible worlds, the existence of modal facts that are antecedent to, or independent of possible worlds provides evidence that the reductionist's ambition of analyzing all modal claims cannot be fulfilled.

A key premise of Shalkowski's argument is that propositions about the shape of logical space have modal profiles. Having introduced the dispute over modal generalism and amodalism, it should now be clear that this premise is controversial. If the reductionist rejects modal generalism and accepts amodalism, she is well positioned to resist Shalkowski's argument by denying this key premise. Given amodalism, she can accept that there are true propositions regarding the shape of logical space, but deny that these true propositions are either necessary or contingent. And, since these true propositions have no modal profile, the reductionist need not provide an analysis of their modal status in terms of possible worlds. For this reason, her reductive ambitions are not undermined by Shalkowski's appeal to modal claims about logical space itself.

This amodalist response to Shalkowski's argument is simple yet powerful. As I will now argue, it also enjoys an additional virtue of resolving a more general puzzle about the limits of modality. It will therefore be helpful to take a step back from the particulars of Shalkowski's argument and focus on the amodalist solution to this broader puzzle.

According to possible worlds theory, modal claims admit of analysis in terms of the apparatus of possible worlds. Modal claims are, however, extremely cheap. We assert that the Cubs could've won the World Series. We grapple with the fact that every human must someday die. These are instances of *ordinary modalizing*. In addition to these instances of ordinary modalizing, we also have the linguistic wherewithal to deploy modal terminology

with respect to the apparatus of possible worlds itself. We consider whether there could have been fewer possible worlds than there are. We assert or deny that merely possible worlds must be concrete. These less familiar claims are instances of *advanced* rather than ordinary modalizing. They are distinguished by taking intuitively non-ordinary entities as their subject matter. Divers (1999) characterizes the phenomenon of advanced modalizing as follows:

> Advanced modalizing is modalizing that is primarily about entities that are not ordinary individuals. Depending on one's views about what the category of basic individuals includes, some or all of the following may be regarded as cases of advanced modalizing: The empty set exists necessarily. All sets have their members essentially. It is contingent that there are no numbers. All properties exist necessarily. Some properties are contingently instantiated. No two individuals could differ in their A-properties unless they differed in their B-properties. There could be propositions that no human could think. Some singular propositions are contingent existents. Some events could have occurred much earlier than they actually occurred. It is necessary that there are many possible worlds.[8]

Divers correctly points out that the distinction between ordinary and advanced modalizing will be determined, in part, by one's background metaphysical assumptions. In light of this, it will be helpful to leave open how exactly this distinction should be drawn. We should note, however, that any metaphysics of modality owes us some account of advanced modalizing.

As we have already seen, Shalkowski believes our only recourse is to take advanced modalizing at face value and treat it in the same fashion as ordinary modalizing. And, since Shalkowski holds that no possible worlds theory can do so this without surrendering the hope of a reductive analysis of modality, he concludes that reductionism is untenable.

Despite Shalkowski's insistence, it is important to note that this face-value treatment of advanced modalizing is far from mandatory. Note, for instance, that Yagisawa (1988) denies that ordinary and advanced modalizing are to be treated in the same fashion. Instead, Yagisawa argues that advanced modalizing—in this case, modalizing about different ways logical space might be—is to be represented by positing an additional level of "alternative logical spaces".[9] So, while ordinary modalizing is to be analyzed in terms of possible worlds, Yagisawa holds that advanced modalizing is properly captured by appeal to a higher level of world-like entities.

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[8] Divers (1999: 219).
[9] Yagisawa (1988: 183-187).

This hierarchical treatment of ordinary and advanced modalizing is intuitive, but comes at a considerable ontological cost. Not only does an infinite regress of entities loom as we attempt to capture *super-advanced modalizing* (i.e., modalizing about these alternative logical spaces), commitment to even the first order of alternative logical spaces already requires a vast ontological commitment.

Faced with the puzzle of advanced modalizing, the amodalist rejects both Shalkowski and Yagisawa's proposals. According to the amodalist, advanced modalizing is not treated in the same fashion as ordinary modalizing nor is it captured by appeal to a hierarchy of alternative logical spaces. Instead, certain instances of advanced modalizing are viewed as covertly amodal insofar as they fail to express propositions about what is metaphysically possible or metaphysically necessary. So, while these instances of advanced modalizing are superficially modal by virtue of including modal operators and terms like 'must' or 'can', they express only amodal propositions about the nature of logical space. These amodal propositions will therefore bear truth-values, but lack modal profiles, and, as a consequence, are not genuinely modal propositions.

A powerful rationale for denying that certain instances of advanced modalizing express genuinely modal propositions flows from the commitments of possible worlds theory: If metaphysical modality is to be analyzed in terms of possible worlds, claims that cannot be understood in terms of possible worlds should not be construed as genuinely modal. The amodalist picture therefore holds that the modal buck stops at those claims which cannot be naturally assigned a modal profile within the framework of possible worlds. Certain instances of advanced modalizing—in particular, those Shalkowski focuses upon—therefore fail to express propositions with modal profiles.

To be sure, this amodalist treatment of advanced modalizing raises both logical and semantic issues; I take up these issues in Section Three. I will now turn to two additional arguments that take aim at possible worlds theories and show that, in each case, amodalism supplies a natural response.

§2.2. An Argument Against Ersatzism

The second argument that I will consider targets ersatzist possible worlds theory, which identifies possible worlds with abstract entities. As presented in Lewis (1986: 174-191), the target of this schematic argument is any view that identifies possible worlds with

propositions, properties, and various other abstract entities; however, as van Inwagen (1986) has shown, this argument also generalizes to views that identify possible worlds with sets.[10]

Defenders of ersatzism—here, "ersatzers"—endorse the existence of a plurality of abstract "elements" that play the role of possible worlds. These elements—be they propositions, properties, sets, or whatever else—exhaustively represent the domain of possibilities. Within the ersatzer's framework, if it is true of concrete world that trees sprout leaves, then the set of elements that represents that *trees sprout leaves* bears the *selection relation* to the concrete world. This selection relation is a primitive, unanalyzable piece of theory.[11] Furthermore, among the plurality of abstract elements, only one maximal element stands in a unique relation to the concrete world: it is selected when and only when the concrete world is as it actually is. On the resulting view, the ersatzer provides an analysis of what it is for a possibility to be true at an element by appeal to the primitive selection relation: *P* is true at element *M* if and only if, necessarily, if the concrete world selects *M*, then *P*.

While the ersatzer makes no claim to reduce modality, the nature of this selection relation is a matter of considerable importance. If the selection relation is wholly unintelligible or entirely mysterious, the ideological cost of ersatzism will prove unacceptable. Lewis is entitled, then, to ask the ersatzer whether the selection relation is internal or external in nature. If internal, it would supervene upon the intrinsic properties of its *relata* taken separately and obtain "in virtue of what goes on within the concrete world together with the intrinsic nature of the selected element."[12] Examples of internal relations include *being a duplicate of* or *having the same shape as*.

The alternative to an internal selection relation is an external one, which would supervene upon the intrinsic properties of the *relata* taken together (i.e., upon the mereological sum of the *relata* and their relations to one another, but not upon the *relata* taken separately).[13] Paradigmatic external relations include *being five feet from* or *happening at the*

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[10] The following presentation of Lewis's dilemma follows those of van Inwagen (1986), Jubien (1991), Divers (2002), Melia (2003), and Denby (2006).

[11] Depending upon one's preferred form of ersaztism, selection will be understood as actualization, realization, instantiation or some other primitive relation.

[12] Lewis (1986: 177).

[13] Lewis rejects the possibility that the selection relation is extrinsic, rather than external, since he holds that the selection relation could not plausibly depend upon anything other than the intrinsic properties of elements and the concrete world.

same time as. Lewis's dilemma aims to show that objectionable consequences follow regardless of which answer the ersatzer provides.

If the ersatzer holds the selection relation to be internal in nature, the concrete world will select an element in virtue of the intrinsic features of that element and the concrete world considered separately. Intrinsic features of the concrete world are plentiful, but an explanation of how only one unique element is selected will need to appeal to the unique intrinsic properties of that element. But, if such an explanation is to be satisfactory, the ersazter must appeal to primitive or representational properties that are somehow intrinsic to that abstract element; however, these primitive properties can only be singled out by virtue of playing the role of representing this or that possibility. And, since these intrinsic representational properties are instantiated by abstract entities, we can have no connection to them via causal acquaintance. For this reason, our epistemic and semantic access to these properties can only be what Lewis calls "magical". Such inexplicable access is therefore an unacceptable theoretical cost for any account of possible worlds. In light of this, Lewis concludes: "it is a mystery how anyone could have understood the predicate 'selects', which is supposed to express an internal relation that involves these properties. If the ersatzer has understood his own primitive, he must have done it by magic."[14]

This first horn of Lewis's dilemma establishes that, if the selection relation is internal, then there is no non-magical way to grasp it. In contrast, the second horn takes issue with the modal commitments of an external selection relation. Lewis argues as follows: If the selection relation is external and, therefore, partially independent of the intrinsic properties of the concrete world and an element taken separately, it should be possible that it have different *relata*. But, if it is possible that the selection relation pick out an element other than the unique element that represents the concrete world, the ersatzer's position would be incoherent. This is because selection must be a relation between the maximal element that represents the way the concrete world is and the concrete world. But, if the selection relation could not have had other *relata*, then it must be necessary that a certain element bear this external selection relation to the concrete world. A commitment to this necessary connection

[14] Lewis (1986: 178).

between the selection relation, the actual world, and a certain element is, however, an objectionably brute modal fact that represents a significant theoretical cost.[15]

In offering a response to Lewis's argument, we ought to begin by noting that the second horn of Lewis's dilemma presupposes modal generalism. In particular, Lewis assumes that all propositions—including those regarding the selection relation—have modal profiles. And, since Lewis points out that undesirable results follow from viewing these propositions as either contingent or necessary, he concludes that ersatzism is untenable. The amodalist can, however, tender a straightforward response to Lewis's dilemma by denying that propositions regarding the selection relation are genuinely modal. By taking the relevant truths about the selection relation to be amodal, the ersatzer avoids the threat of an incoherent modal metaphysics and a commitment to objectionably mysterious necessary connections. She can therefore hold the selection relation to be external, while denying that there are any interesting modal facts about how this relation might or must be.

This amodalist response to Lewis's argument enjoys the same motivations that made our earlier response to Shalkowski's argument attractive. Certain instances of advanced modalizing appear to make modal claims about the apparatus of possible worlds, but, upon reflection, these claims are best thought to fail to express facts about metaphysical modality. So, while Lewis's argument presupposes that the possible worlds theorist must allow modalizing that outstrips what can be analyzed in terms of possible worlds, the ersatzist has principled reason to deny that propositions about the selection relation have modal profiles.[16] In doing so, the ersatzist can help herself to the second horn of Lewis's dilemma and view the selection relation as external.

With the appeal of amodalism for ersatzists in mind, let us now turn to an argument against concretist possible worlds theory that provides further support for amodalism.

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[15] For discussion of the objectionable character of necessary connections between distinct existences, see Lewis (1982) and Lewis (1986: 86-92).

[16] The prospects for the amodalist response dovetail with the prospects of holding propositions about the membership relation to be amodal. If these relations are amodal, there is some pressure to hold that impure sets (i.e., sets with non-sets in their transitive closure) have their members, not essentially, but in some amodal fashion.

§2.3. An Argument Against Concretism

The third argument against possible worlds theory targets concretism, which identifies possible worlds with concrete objects. Unlike ersatzists who identify possible worlds with abstract entities, concretists like Lewis (1986) hold that each possible world is a causally and spatiotemporally isolated concrete object of the same ontological ilk as the actual world.[17]

According to concretism, modal concepts are to be analyzed in terms of quantification over concrete possible worlds in much the same way that temporal concepts are to be analyzed in terms of quantification over various times (provided, of course, that one accepts the existence of non-present times). For example, the modal operator, $\Diamond$, is analyzed as "At some possible world", while the modal operator, $\Box$, is analyzed as "At every possible world". So understood, the claim "Possibly, there are golden mountains" is true if and only if there is some concrete possible world that has golden mountains among its parts.

Hudson (1999) presents a puzzle for concretists who endorse this analysis: Consider the mereological sum of all possible dogs, which we can call "Spot". Spot is a transworld fusion—an object with parts at distinct possible worlds. If concretism is true, then it is true that Spot exists. Notice, however, that the (T)-axiom of standard modal logic, $\Box\Phi \rightarrow \Phi$, is equivalent to $\Phi \rightarrow \Diamond\Phi$. Granted this equivalence, we can infer that "Possibly, Spot exists" from "Spot exists". But, once the modal operator in this sentence is analyzed along concretist lines, the result is "At some possible world, Spot exists." Intuitively, however, Spot does not exist at any single world, but exists only across a number of possible worlds. For this reason, standard modal logic is in tension with the commitments of concretism, since it is true that Spot exists, even while this proposition is not possibly true.[18]

Although this problem is a general one for the concretist, an acute version of it also arises with respect to the thesis of concretism itself. As Parsons (MS) argues, the thesis of concretism—that a plurality of concrete possible worlds exists—will be true according to the

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[17] The precise commitments of concretism are a matter of controversy. See Bricker (2006) for a view that accepts concrete possible worlds, but denies they belong to the same ontological category as the actual one.

[18] An initial response to this worry holds that "Spot exists" is true at a world if even a single part of Spot exists at that world. Other predicates show that this revision does nothing to stem the problem at hand. Consider "Spot is spatiotemporally disconnected." While the concretist deems this true, she must hold "Possibly, Spot is spatiotemporally disconnected" to be false, despite following from the (T)-axiom. This is because any given world is spatiotemporally connected (i.e., every part is spatiotemporally related to every other part), so there can be no world at which Spot is spatiotemporally disconnected. For this reason, the culprit behind the concretist's problem is not the semantics of predicates like 'exists', but claims that concern transworld individuals like Spot.

concretist, but not possibly true. This is because the thesis of concretism cannot be true at any particular possible world since the entire plurality of possible worlds is a spatiotemporally disunified entity (i.e., an entity with parts that bear no spatiotemporal relations to one another), and each possible world must itself be spatiotemporally unified. Concretists therefore face a difficult problem in avoiding the conclusion that the central thesis of their own preferred modal metaphysics is itself impossible.[19]

The source of these and other problems for the concretist is the interaction between modalizing and the existence of entities like Spot. Spot is no ordinary individual. It is cobbled together from various regions of logical space. And, having already noted some of the problems that advanced modalizing poses, it should be no surprise that modalizing about an extraordinary individual like Spot yields now familiar problems. Fortunately, these problems also admit of the same solution offered to the arguments previously considered.

For the amodalist, certain propositions regarding transworld individuals like Spot are naturally viewed as amodal. In this case, the proposition that Spot exists is true *simpliciter*, but neither necessarily true nor contingently true. Similarly, the thesis of concretism is properly viewed as an amodal truth rather than a necessary or contingent one. So, while propositions about ordinary individuals—e.g., dogs that are wholly located within a single world—have modal profiles, propositions regarding Spot or the entire plurality of concrete possible worlds are properly viewed as amodal. As a consequence, the concretist's proposed analysis of modal operators cannot be undermined by appeal to transworld individuals. Faced with claims regarding these individuals, the concretist should simply deny that the truth of the relevant propositions entails that these propositions have the property of *being possibly true*.

§2.4 Amodalism and Possible Worlds

I have now presented three arguments against three kinds of possible worlds theory. In each case, I have defended an amodalist response to these arguments. This shows that there is some reason for particular versions of possible worlds theory to be supplemented with a

[19] Related issues also arise here about the possibility of "island universes"—possible worlds that are spatiotemporally disunified. Here, it will suffice to note that, even if island universes are accommodated, this will not suffice to allow an entire plurality of worlds to exist at any given possible world. For discussion, see Bricker (1996) and (2001), and Dorr (MS).

commitment to amodalism.[20] And, since these views exhaust the space of possible worlds theories, there is reason for possible worlds theorists of any stripe to accept amodalism.

In addition, amodalism also furnishes the possible worlds theorist with an attractive strategy for responding to more sweeping arguments. Consider the objection to possible worlds theory mounted in Jubien (2009): "The fundamental problem is that in [possible] world theory, what passes for necessity is in effect just a bunch of parallel 'contingencies'. The theory provides no basis for understanding why these contingencies repeat unremittingly across the board (while others do not)."[21]

Jubien's complaint here is that possible worlds theory distorts the concept of necessity by treating it as an array of "parallel contingencies". Presumably, this is because Jubien holds that possible worlds theory cannot explain why logical space is the way it in fact is. Notice, however, that the substance of this complaint flows from the presumption that there are different ways logical space might have been. Now, with the adoption of amodalism, this presumption can be seen as mistaken. It is not metaphysically possible that logical space could have been otherwise, nor is it metaphysically necessary that it be as it is. There is simply no fact of the matter about what is metaphysically possible for logical space. And, once the illusion of alternative "possibilities" for logical space has been dispelled, Jubien's request for an explanation of the shape of logical space can be seen as errantly presupposing modal generalism. Given amodalism, there simply is no further modal fact to explain, so no argument of this kind can successfully undermine possible worlds theory.

Although I have not canvassed alternative responses to the arguments just considered, it is telling that amodalism yields a powerful and simple reply in each of these cases. I take its success in this regard to point strongly towards the conclusion that possible worlds theory should be wedded to amodalism rather than modal generalism. This conclusion will, however, need to be weighed against broader theoretical considerstions. For this reason, what the amodalist now owes us is some evidence that commitment to amodal

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[20] One kind of possible worlds theory that I have not explicitly discussed is linguistic ersatzism, which identifies possible worlds with sets of sentences. I take such a view to face two problems. First, since it must appeal to sets, the resulting view will count as a form of ersatzism targeted by the argument in Section 2.2. Second, as Lewis (1986) shows, the linguistic ersatzist lacks the expressive resources to discriminate between certain possibilities for non-actual individuals. For this reason, linguistic ersatzism is simply an inadequate form of possible worlds theory.

[21] Jubien (2009: 75).

propositions solves more problems that it creates. It is to these issues and the challenge of developing a tenable version of amodalism that I will now turn.

§3. Amodalism

In this section, I aim to show that amodalism can overcome some of the more formidable obstacles it faces. Most notably, I aim to address charges that it conflicts with modal logic, delivers an implausible semantic theory, or licenses a *reductio* of possible worlds theory. Taken together, my efforts to overcome these charges will also be useful in addressing the more general concern that amodalism is somehow conceptually incoherent.

3.1. Amodalism and Modal Logic

Let me begin by considering the putative conflict between modal logic and amodalism. This conflict arises because modal logic suggests a direct argument against the existence of amodal propositions. Like Hudson's problem for concretists, this argument turns on the (T)-axiom, $\Phi \rightarrow \Diamond \Phi$. Consider any true proposition, Q. Given the (T)-axiom, we can infer $\Diamond Q$ from Q. The (T)-axiom therefore guarantees that any true amodal proposition will have a modal profile by virtue of being possibly true. As a consequence, we seem forced to choose between amodalism and modal logic (or at least any standard modal logic).

A natural response to the above argument is to attempt to revise modal logic in a way that eases this tension; however, such a response is unduly reactionary. A better response begins by attending to the conceptual role of possible worlds and clarifying the conceptual and methodological relations between possible worlds and modal logic.

Recall that, according to possible worlds theory, the operators of modal logic are to be analyzed in terms of possible worlds (i.e., they are understood as something very much like quantifiers over worlds). For this reason, possible worlds themselves rather than the distinctive operators of modal logic are our conceptually basic resources for understanding modal thought and talk. This conceptual primacy of possible worlds over boxes and diamonds is evident when we note that many modal notions cannot be expressed using the apparatus of modal logic but are naturally expressed using possible worlds. For example, Lewis (1986) points out that supervenience claims—modal claims about property or fact

variation—cannot be represented in the language of modal logic but are handily formulated by directly employing the framework of possible worlds.[22]

The moral for possible worlds theorists to draw here is that possible worlds theory is not subservient to the limited powers of modal logic. On the contrary, modal logic emerges as a convenient way to formalize our inferences regarding possible worlds rather than an exhaustive tool for expressing the vast body of our modal thought and talk.[23] So understood, there is no pressure upon the possible worlds theorist to guarantee that all claims are expressible within standard modal logic. Instead, possible worlds theorists should acknowledge that amodal propositions are not suitable semantic values for the formulas of standard modal logic, and, as with supervenience claims, this should not undermine the import or tenability of either amodal propositions or modal logic.

Lewis (1986) makes a similar point regarding the relation between essence and modal logic, "If this language of boxes and diamonds proves to be a clumsy instrument for talking about matters of essence and potentiality, let it go hang. Use the resources of modal realism [i.e., possible worlds] *directly* to say what it would mean for Humphrey to be essentially human, or to exist contingently."[24] The same guiding principle applies to matters regarding amodal propositions. Rather than set out to revise modal logic, the possible worlds theorist ought to admit the considerable limitations of modal logic and restrict its theoretical purview appropriately. On the resulting view, only modal propositions, but not amodal ones, bear the inferential relations that modal logic suggests. Once amodal propositions are understood to fall outside the expressive resources of standard modal logic, the tension between possible worlds theory and modal logic can be set aside.

3.2. Amodalism and Semantics

I will now consider the semantic challenges faced by amodalism. The most general of these is to explain what content and truth-value, if any, sentences like the following instances of advanced modalizing have:

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[22] See Lewis (1986: 16).
[23] For further discussion of the primacy of possible worlds and quantification over them, see Schlenker (2006).
[24] Lewis (1986: 12-13).

(1) Necessarily, possible worlds exist.

(2) It is impossible that possible worlds exist.

(3) There could have been only seventeen possible worlds.

The worry here is that, since the amodalist claims that certain propositions lack modal profiles, apparently sensible discourse that includes instances of advanced modalizing will be inexplicable. For this reason, some systematic account of the content and truth-value of sentences like (1)-(3) must be provided.

In making sense of sentences like (1)-(3) a number of options are available. Unsurprisingly, many of these options parallel familiar strategies for accommodating other controversial kinds of discourse (e.g., normative and mathematical discourse).

One option is to adopt something like an error theory and hold that all sentences like (1)-(3) are false. This approach takes advanced modalizing to presuppose a certain body of modal facts and, given the relevant presupposition failure, concludes that sentences like (1)-(3), which purport to express these facts, are uniformly false. This option enjoys some intuitive support from possible worlds theory. Since modal facts are grounded in possible worlds and advanced modalizing is not grounded in this way, one might plausibly conclude that there are simply no relevant modal facts to determine the substantive truth of sentences like (1)-(3).

This error-theoretic approach encounters serious problems. Not only does it disagree with most truth-value judgments regarding (1)-(3), it also makes trouble for the standard semantics of modal operators. For example, if both "*P* is possible" and "*P* is impossible" are deemed false by virtue of *P* being an instance of advanced modalizing, the error theorist will be committed to either a contradiction or denying the standard account of how modal operators interact with negation.

While an error theory holds instances of advanced modalizing to be vacuously false, another option holds that (1)-(3) are not merely false, but meaningless. This approach views (1)-(3) as something like category mistakes and denies that sentences of this kind express propositions. This is a controversial commitment and, for a number of reasons, the appeal of the category mistake approach is limited. Most notably, it would seem to make disagreement, reasoning, and other features of discourse surrounding advanced modalizing inexplicable given that all the relevant sentences are meaningless.

A third option appeals to epistemic modality and holds putative instances of advanced modalizing to express only epistemic rather than metaphysical modality. The truth-values of instances of advanced modalizing will therefore be determined, not by the nature of logical space, but by the compatibility of propositions with some relevant body of information. According to a simplistic treatment of epistemic modality, the contents of (1)-(3) are not claims regarding what is metaphysically necessary or possible but instead claims best understood as follows:[25]

(1*) It is not compatible with what I know that it is not the case that possible worlds exist.

(2*) It is not compatible with what I know that possible worlds exist.

(3*) It is compatible with what I know that there are only seventeen possible worlds.

By holding instances of advanced modalizing to express only epistemic modality rather than metaphysical modality, this approach avoids certain pitfalls of the previously considered approaches. It also finds a natural parallel in the semantic treatment of modals within mathematical discourse. If we assume mathematical truths are necessary, our employment of modals with respect to unsolved mathematical propositions like Goldbach's Conjecture are most plausibly thought to be epistemic.[26] On the resulting view, there is a close analogy between "Every even integer might be the sum of two primes" and "There must be more than seventeen possible worlds" because, on the present view, both claims express epistemic rather than metaphysical modality.

The epistemic modality approach just suggested is unsatisfactory. We should accept that certain instances of advanced modalizing invoke only epistemic modality (e.g., when Lewis (1986: 224) professes agnosticism over whether there are qualitatively indiscernible possible worlds), but there is no evidence that all instances of advanced modalizing are epistemic. Consider, for example, an omniscient guru who, despite his exhaustive knowledge of the entirety of logical space, nevertheless utters claims like (1)-(3) Given the guru's body

[25] There is widespread disagreement on the proper semantics for epistemic modals. Not only do views differ on whether knowledge rather than a certain threshold of justification is relevant, views also differ on whose body of knowledge is relevant. For discussion, see Macfarlane (forthcoming) and Schaffer (2005).

[26] Mathematical truths are, of course, natural candidates for being amodal truths. I leave this issue aside for present purposes.

of knowledge, we cannot plausibly interpret these claims as epistemic. For this reason, the epistemic approach still owes us an account of (1)-(3) when they invoke metaphysical rather than epistemic modality.

The error theory and category mistake approaches we have considered are immodest. In order to sustain amodalism, they make considerable revisions to the semantics of modal language. A modest response, which would avoid such revisions, is preferable. Such a response would retain—at least superficially—our standard generalist-friendly semantics, but develop this semantics in terms of an underlying amodalist metaphysics. So, while the modest approach would allow the amodalist to speak as the modal generalist does, she could still deny that, strictly speaking, this semantics properly represents modal reality.

Before sketching a semantics that accommodates this modest approach, consider another way to sharpen the general challenge for amodalism. This sharpening arises when we reflect on standard semantic theory, which holds that a proposition, if true, is true only relative to some possible world. This feature of standard semantic theory suggests the following argument against amodalism: The most fundamental alethic property or relation of propositions is the *is true at* relation that propositions bear to possible worlds.[27] Since this relation is the most fundamental alethic property or relation of propositions, any amodal proposition, if true, will bear *is true at* to a world. But, since any true amodal proposition will bear *is true at* to a world, it will be true at some possible worlds and will therefore have a modal profile.

The worry here is that our standard semantics for the modal operator 'possibly' holds a proposition—expressed by a sentence-type in a context—to be true if and only if that proposition is true at some possible world, *w*.[28] So, if the amodalist allows amodal propositions to be true at possible worlds, the standard semantics will guarantee that those propositions have some modal status. At the same time, if the amodalist denies that amodal propositions are true at possible worlds, it is unclear how amodal propositions can be true at all.

The amodalist now has two problems. She must accommodate her preferred metaphysics according to which amodal propositions are not true or false relative to possible

[27] Opponents of a fundamental *is true at* relation include Cappelen and Hawthorne (2009) and Schaffer (MS).
[28] I omit qualifications regarding accessibility relations between worlds.

worlds. Furthermore, she ought to develop an alternative semantics that reflects this commitment, but allows the amodalist to speak just as the modal generalist does.

The amodalist's solution to these problems has three steps. First, the amodalist enriches the world index of standard semantics, which allows only possible worlds as values. Instead of holding propositions to be true or false only relative to worlds, propositions are held to be true or false relative to a given possible world *or* the entirety of logical space (hereafter, *LS*).[29] The amodalist then stipulates that amodal propositions are true or false only relative to *LS*, while modal propositions are true or false only relative to worlds.[30] Note, however, that this is mere semantic artifice on the part of the amodalist. For the amodalist, amodal propositions are true or false *simpliciter* rather than true or false at an index. The present enrichment of the world index here is intended to mark this commitment, but also ensure a uniform formalism that employs *is true at*. The claim that amodal propositions are true at *LS* is therefore a mere device for representing the unique status of amodal propositions, while helping ourselves to the standard semantic theory.

Second, the amodalist uses her enriched index to define up a generalist-friendly semantics. She introduces the notion of a *modal point*, where a modal point is an ordered pair consisting of a unique possible world and *LS*—e.g., <*w*, LS*>, <*w**, LS*>. The amodalist then defines the notion of *truth at a modal point* as follows: *P* is true at a modal point if and only if either *P* is true at the *w* included in that modal point or *P* is true at *LS*. With a definition of truth at a modal point, the amodalist can now provide truth-conditions for modal operators that treat modal points rather than worlds as indices. On this generalist-friendly semantics, "Possibly *P*" is true if and only if *P* is true at some modal point. Similarly, "Necessarily P" is true if and only if *P* is true at all modal points. Given these truth-conditions, sentence (1) is true, while sentences (2) and (3) are false. In effect, this semantics now treats amodal truths as necessary truths and amodal falsehoods as impossibilities, but, at bottom, denies that amodal propositions bear the fundamental *is true at* relation to possible worlds.

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[29] On the most natural enrichment, the amodalist simply introduces the mereological sum of all possible worlds to represent another possible value of the world index.

[30] Note that amodal and modal propositions perfectly partition the space of propositions such that no amodal proposition has a truth-value relative to a world and no modal proposition has a truth-value relative to *LS*. For this reason, we cannot generate contradictions by virtue of a proposition being true at some world, while false at *LS*, and therefore both true and false at a modal point.

Third, the amodalist makes corresponding changes to the truth-conditions of other sentences by replacing worlds with modal points. For example, in order to preserve certain inferential connections—e.g., the inference from necessity to actuality—our semantics again has modal points doing the work that standard semantics assigns to worlds. For example, "Actually, *P*" is true if and only if *P* is true at the modal point that includes the actual world, @.[31] Similarly, we secure the valid inference of "*P*" from "Necessarily, P" by holding that a proposition, *P*—expressed by a sentence-type in a context—is true if and only if it is true at the modal point that includes the actual world.[32]

The amodalist's generalist-friendly semantics is unlovely. It is unduly complicated. It fails to capture what the amodalist takes to be the most natural interpretation of our modal concepts. It errantly treats amodal truths as necessities and amodal falsehoods as impossibilities. Still, it allows the amodalist to provide a semantics for advanced modalizing that superficially agrees with the inferential roles that the modal generalist assigns familiar modal operators. It therefore allows us to avoid an unduly revisionary semantics. Finally, it sustains the amodalist commitment to proposition that are true *simpliciter*, while providing way to represent this fact in terms of the alethic relation of *is true at*.

The amodalist can now distinguish two competing interpretations of our modal language. On the generalist-friendly one, our modal notions are inherently disjunctive by virtue of their appeal to modal points. And, while we can help ourselves to this semantics in order to achieve superficial agreement with modal generalism, the amodalist views it as metaphysically deviant. On what the amodalist takes to be the more natural albeit revisionary interpretation, our modal notions are not disjunctive. Possibility is still truth at some possible worlds; necessity is still truth at all possible worlds. In addition, amodal truths are true *simpliciter* rather than true at any given possible world and are therefore neither necessary nor contingent. The upshot of these competing semantics is that, even while the amodalist can, when needed, speak as the modal generalist does, she can do so without compromising her underlying metaphysics.

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[31] If we failed to make this modification and defined "actually" using worlds rather than modal points that include worlds, a proposition might be necessarily true in virtue of being true at LS, but not actually true, since it would not be true at any given world.

[32] Divers (1999) provides an alternative treatment of advanced modalizing, which holds that modal operators, when appended to what I have called amodal propositions, are semantically vacuous. The approach just outlined avoids Divers' commitment to the content of propositions triggering the semantic vacuity of the modal operators.

Before proceeding, let me note a remaining challenge for the amodalist concerning propositions. This challenge arises because, in denying that all propositions have modal profiles, the amodalist also takes on certain commitments regarding the nature of propositions. Notice, for example, that if propositions are to be identified with sets of possible worlds, it is natural to conclude that propositions have modal profiles.[33] This is because any proposition identified with a non-empty proper subset of the set of all possible worlds will be true at just those possible worlds it has as members and therefore contingent. Similarly, the set of all possible worlds will be identified with any necessary proposition and the empty set will be identified with any impossible proposition.

Now, while those wedded to this conception of propositions have the makings of an argument against amodalism, the amodalist ought to conclude that different entities are suited for playing different propositional roles. So, while sets of possible worlds are useful for serving as, say, the propositions expressed by formulae of modal logic, more fine-grained entities are needed to capture distinctions in other theoretical contexts. Indeed, these more fine-grained accounts—e.g., accounts that view propositions like Obama is human as ordered sequences of individuals and properties like <Obama, *being human*>—are motivated by the need to appropriately distinguish necessities like 2+2=4 and all triangles have three angles. Here, the amodalist ought to follow suit and accept that different entities can occupy different roles associated with propositions and that the distinction between modal and amodal propositions should be drawn with some fine-grained conception in mind.

3.3 Amodalism and Conceptual Coherence

Let me now turn to another challenge for the amodalist: defending the view from the charge that it is conceptually incoherent. This charge is implicit in the remarks of Divers (1999) where he claims that amodalism violates principles that "are strong candidates to be counted as elements of pre-theoretical data that any theory of modality must accommodate."[34]

The problem that this challenge raises is difficult to pinpoint. In part, this is because accusations of conceptual incoherence are extremely difficult to substantiate if individuals can deploy the concepts in question with any reasonable measure of success. In light of this, it is not surprising that direct charges of conceptual incoherence typically yield a

[33] See Stalnaker (1987) for a defense of the identification of propositions with possible worlds.
[34] Divers (1999: 430).

philosophical stalemate. For instance, no compelling argument against amodalism can be made by simply insisting that all truths are either necessary or contingent and that, as a consequence, there are no amodal truths. Similarly, when presented with such an objection, the defender of amodalism cannot simply insist that generalists are subject to a certain kind of conceptual "blindness" by virtue of failing to recognize the existence of amodal truths.

For these reasons, a debate over the conceptual coherence of amodalism is unlikely to deliver a clear winner. Even so, opponents of amodalism might deploy an argument against possible worlds theory rather than amodalism directly. This argument begins by granting that possible worlds theorists ought to accept amodalism, but concludes that, since amodalism is troublesome, revisionary, or intuitively unappealing, this shows that possible worlds theory should be rejected altogether.

Presented with this argument, a natural strategy for the possible worlds theorist is to offer a "good company response", which aims to show that otherwise plausible views are also committed to amodalism. It is significant, then, that the possible worlds theorist can do better than a mere good company response. The possible worlds theorist can show that a number of rival views are committed to the acceptance of amodal truths or something very much like them. For this reason, the above argument can be shown to over-generate by undermining possible worlds theory as well as its rivals. Let me now briefly mention the ties between amodalism and two rivals: eliminativism and certain forms of modalism.

According to eliminativism, our modal discourse is fundamentally defective. This is because either there are no genuinely modal facts about the world or, according to a more conventionalist brand of eliminativism, all putatively modal facts are merely facts about linguistic convention. Although there are important distinctions to be drawn between these and other views, the significant point here is that, according to either form of eliminativism, there will be certain propositions that lack modal status. This is either because there are simply no modal facts at all or because there are no relevant linguistic conventions to fix what are taken to be the modal facts. It would seem, then, that certain eliminativist competitor to possible worlds theory are committed to an especially robust version of amodalism—*viz*, extreme amodalism, according to which no propositions have modal profiles. For this reason, no argument that takes issues with the coherence of amodal propositions can undermine amodalism without also undercutting eliminativism.

According to a second rival, the modalism developed in Fine (2005), our modal concepts are in good standing, but are not properly analyzed in terms of possible worlds. For this reason, modalism emerges as a leading rival to possible worlds theory. It is noteworthy, then, that Fine defends a distinction suspiciously similar to the one the amodalist draws between necessary and amodal propositions. He argues as follows:

> [J]ust as one may draw a distinction between eternal and sempiternal truths according as to whether they are true regardless of time or whatever the time, so one can draw a distinction between transcendental and necessary truths according as to whether they are true regardless of the circumstances or whatever the circumstances… A necessary truth will then be a worldly proposition whose truth-value always turn on how things turn out, while a transcendental truth will be a true proposition whose truth-value does not turn on how things turn out. Thus the proposition that Socrates exists or does not exist is a necessary truth, since its truth-value turns on whether or not Socrates exists, which is a matter of how things turn out… On the other hand, the propositions that Socrates is self-identical or that 2 + 2 = 4 are not ones whose truth-value turn on how things turn out; and they are therefore transcendental.[35]

The distinctions Fine intends to draw here are distinctions between different senses of necessity. These senses of necessity differ as to whether they subsume transcendental truths like the proposition that Socrates is self-identical. Given an "unextended" sense of necessity, Fine holds that it is not necessary that Socrates is self-identical, but, given an "extended" sense of necessity that subsumes both necessary and transcedental truths, it is indeed necessary. In this respect, Fine's distinction runs in parallel to the two interpretations of our modal talk outlined in the semantics developed in Section Three.

Although Fine holds his view to distinguish only between various senses of necessity, there are at least three reasons to believe that his view differs from amodalism only with respect to terminology. First, just as amodal truths are properly viewed as the modal analogue of tenseless truths (i.e., truths that are neither eternally nor temporarily true), Fine also claims that transcendental truths are the modal analogue of tenseless truths.

Second, since Fine's distinction between the categories of the necessary and the transcendental maps naturally onto the amodalist's distinction between the categories of the necessary and the amodal. As we gave already seen, the amodalist can follow Fine in introducing a stipulative sense of "necessity" that includes both necessary and amodal truths.

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[35] Fine (2005: 325-326).

Notice, however, that the fact that certain truths can be called "necessary" by no means ensures that they are most naturally understood as such. Indeed, the amodalist ought to hold that Fine is simply mistaken in holding the conjunction of necessary and transcendental truths to deliver a natural interpretation of "necessary".

Third, since Fine holds that Socrates is self-identical is true but not an unextended possibility, his version of modalism shares the amodalist's distinctive commitment of denying that truth entails possible truth. As Fine says: "even though it is true that Socrates is self-identical, this is not an unextended possibility. Truth does not imply possibility!"[36] In the mouth of the amodalist, Fine's claim is equivalent to the denial that the truth of an amodal proposition entails its possible truth. Given these close connections, it is unclear what of substance divides amodalism from the modalist view Fine defends. As a consequence, any argument that takes issue with concept of amodal truths is likely to make problems for both possible worlds theorists, eliminativists, and Finean modalists.

3.4 Amodalism and the Modal/Amodal Distinction

Before concluding, I will address one final challenge. This challenge begins by noting that no precise criteria for being an amodal proposition have been offered. On the contrary, I have singled out several propositions that are good candidates for being amodal, but have supplied no necessary or sufficient conditions for being amodal. The present challenge holds that, absent suitably precise criteria for being amodal, amodalism is an unacceptably *ad hoc* solution to the problems faced by possible worlds theory.

In defending amodalism from this challenge, it will be helpful to imagine a parallel dispute regarding modal profiles. Consider the fate of the necessitarian who denies that things could have gone otherwise and thereby collapses the distinction between truth and necessary truth. Faced with the incredulity of legions of anti-necessitarians, he is unmoved and abides in his rejection of contingency. Furthermore, he presses the anti-necessitarian, and demands precise criteria for determining whether a proposition is contingent rather than necessary.

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[36] Fine (2005: 327). Note that, while Fine holds the proposition that Socrates is self-identical to be transcendental and I claim the categories of transcendental and amodal are equivalent, I leave open whether we should view this particular claim as amodal. I take it to be an open question whether identity claims are most naturally viewed as amodal rather than necessary or even contingent.

Unsurprisingly, anti-necessitarians are at a loss here, since the distinction between the contingent and the necessary is an extremely murky one. It seems clear, however, that anti-necessitarians should not be troubled. The necessitarian's demand is an unreasonable one. The burden is upon the necessitarian to show that there can be no contingent propositions. And, while matters are not perfectly analogous with regard to the present dispute over amodalism, what should be clear is that a precise criteria for being an amodal proposition is no precondition for accepting amodalism any more than a precise distinction between the necessary and the contingent is a precondition for rejecting necessitarianism. Furthermore, due consideration of those propositions I have already argued are amodal suggests that amodal propositions are very likely to share certain features. In particular, they are likely to be instances of advanced modalizing that take transworld individuals or the entirety of logical space as their subject matter. With these commonalities in mind, we have at least some *prima facie* indication of what the best candidates are for being amodal propositions.

§4. Conclusion

I have now motivated and defended amodalism, according to which certain propositions bear truth-values without bearing them necessarily or contingently. As I have presented the view, its primary motivation is in meeting arguments that threaten our best metaphysics of modality, possible worlds theory. After showing how amodalism sustains possible worlds theory, I defended amodalism from certain logical, semantic, and conceptual challenges amodalism it faces. In each case, amodalism emerged in reasonably good shape. I take this to suggest that generalist can no longer be assumed as an uncontroversial piece of orthodoxy and, in the case of possible worlds theory, to be less attractive than the amodalist alternative.

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