# Is Modal Fictionalism

# A Fiction?

## Abstract

Modal fictionalism's attraction lies in its ability to make use of possible world talk without footing the ontological bill. In this paper, I will argue that modal fictionalism is self-referentially defeating, entailing the invalidity of its translation schemas. This will be done by providing the truth-conditions for the possibility of modal fictionalism's translations schemas, arguing that those conditions do not hold, and therefore that modal fictionalism's translation schemas entail their negation. I then consider a number of objections, concluding that they all fall short. Finally, I show how the line of reasoning used against modal fictionalism can 1) be used against fictionalism about universals and 2) applies to a type of reflexive fictionalism I call schema-reflexive fictionalism.

# 1 Introduction

According to modal realism, modal statements are analyzed as follows:


    (1) $\Diamond p$ ↔ At some possible world $p$[1]


    (2) $\Box p$ ↔ At every possible world, $p$


Unfortunately, (1) and (2) have proven problematic because they are not ontologically innocent. Embracing them is tantamount to embracing a plethora of worlds. If every possible way is a way some world is, then the number that numbers every possible way is the number that numbers the worlds there are; so much for parsimony and common sense ontology. David Lewis—modal realism's staunchest advocate—says "modal realism *does* disagree, to an extreme extent, with firm common sense opinion about what there is."[2] Gideon Rosen concurs with Lewis:


> To embrace it is to undertake a massive revision in the world-view we bring with us to philosophy…modal realism, with its commitment to countless non-actual talking donkeys and the like, must strike us as utterly incredible.[3]


In light of this world-sized problem, the appropriate course of action is not to give up on the meaningfulness of modal statements, but to provide a different analysis.[4] For some, going fictional has been the preferred course in virtue of its ontologically innocent analysis of modality, to wit:


    (3) $\Diamond p$ ↔ According to MR, at some possible world $p$[5]


    (4) $\Box p$ ↔ According to MR, at every possible world $p$


That (3) and (4) are ontologically innocent should be evident.[6] The story prefix, 'according to MR,' no more commits us to the literal existence of

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[1] A note to the reader: I will use the '$\Box$' and '$\Diamond$' for 'necessarily' and 'possibly' respectively.

[2] Lewis (1986): 133.

[3] Rosen (1990): 329.

[4] Not all find this commitment to worlds troubling. Phillip Bricker (2006) says that to reject modal realism on the basis of ontological guilty-ness is based on prejudice, and a prejudice he does not share.

[5] 'MR' stands for 'modal realism.'

[6] The modal fictionalist under consideration is what Daniel Nolan calls a 'strong' fictionalist as opposed to a 'broad' and 'timid' fictionalist. See Nolan (1997). The strong fictionalist

worlds than does the statement 'according to Shakespeare's *Macbeth*, there are three witches' commit us to the literal existence of three witches. This fictionalist position has been called 'modal fictionalism.'[7]

In what is to follow, I will argue that modal fictionalism is self-referentially defeating, entailing the negation of (3) and (4). I will then consider a number of possible objections, concluding that they all fall short. It follows from this that the modal fictionalist should either abandon an analysis of modal statements or abandon modal fictionalism in favor of another theory of modality.

## 2  Translation Schemas

Let us call (3) and (4) translation schemas, for they form an outline or model on how to translate modal statements into their explicit truth-conditions. Now we can ask a very general and straightforward question here about (3) and (4): Are they valid?[8] That is, are they the correct translation schemas for modal statements? Let us assume that the answer is 'yes.' We should now be willing to affirm that if valid, then possibly valid given 'if $p$ then $\Diamond p$.' The result is the following:

> ($\Diamond$-3)  $\Diamond(\Diamond p \leftrightarrow$ According to MR, at some possible world $p$) $\leftrightarrow$ According to MR, at some possible world '$\Diamond p \leftrightarrow$ According to MR, at some possible world $p$'

> ($\Diamond$-4)  $\Diamond(\Box p \leftrightarrow$ According to MR, at every possible world $p$) $\leftrightarrow$ According to MR, at some possible world '$\Box p \leftrightarrow$ According to MR, at every possible world $p$'

(It will do here to focus only on ($\Diamond$-3). Anything said about ($\Diamond$-3) can be said, *mutatis mutandis*, about ($\Diamond$-4).) I think that the modal fictionalist would, or at least should, be willing to affirm ($\Diamond$-3). After all, it merely lays out the

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should be understood as providing an applied semantics, an account of the *meanings* of modal statements, where this is contrasted with a pure semantic. A pure semantic can be cashed out in terms of a formal syntax that defines 'is valid for' given the axioms and rules stipulated in some logical system. As Alvin Plantinga has put it, it is a "purely set theoretical construction that as such has no obvious connection with modal notions at all; it is just any ordered triple (*G, K, R*) where *K* is a set of which *G* is a member and on which *R* is a reflexive relation…The pure semantic does not give us a meaning for '$\Box$', or tell us under what condition a proposition is necessarily true." An applied semantic would instead put some meat on these syntactic bones by providing a meaning for '$\Box$' and further modal operators in the formal syntax. It gives us an interpretation of *G, K*, and *R* in order to spell out, as Plantinga says, "the sober metaphysical truth" of the matter. See Plantinga (1974).

[7] The title is misleading, suggesting that modal fictionalism is fictionalism with respect to modality, not possible worlds.

[8] In this paper, 'valid' and 'true,' when referring to translation schemas, will be used synonymously.

condition under which (3) is possible. The same would apply to modal realism's translation schema:

($\Diamond$-1) $\Diamond(\Diamond p \leftrightarrow$ At some possible world $p) \leftrightarrow$ At some possible
world '$\Diamond p \leftrightarrow$ At some possible world $p$'

($\Diamond$-1) merely lays out the condition under which (1) is possible and is something that the realist has no qualms in affirming. Unfortunately, the same cannot be said for ($\Diamond$-3). In order to see why, we need only look at the right hand side of the bi-conditional with widest scope in ($\Diamond$-3):

(5) According to MR, at some possible world '$\Diamond p \leftrightarrow$ According to
MR, at some possible world $p$'

If (5) comes out true, then no problem. If not, then modal fictionalism has quite a problem. For on the supposition that (5) is false, it follows that the left hand side of the bi-conditional with widest scope in ($\Diamond$-3) is false as well. But the falsity of the left hand side of ($\Diamond$-3) is the impossibility of (3). But *is* (5) false? Is it true that according to modal realism, at some possible world $p$ is possible in virtue of a story prefix? It will help here to elucidate what is meant by 'story prefix.' Recall above that including the story prefix has the benefit of not including in one's ontology the existence of possible worlds. Such a prefix is ontologically innocent, being non-factive. As such, given $p$ and some non-factive operator $O$, if $O$ operates on $p$, $O(p)$, then it does not follow that $p$. That is, the move from $O(p)$ to $p$ is invalid.

## 3 A Problem for Modal Fictionalism

We can now re-state our question: Is it true that according to modal realism, at some possible world $p$ is possible in virtue of *some non-factive operator*? The answer, I submit, is 'no.' Proof: Assume that the answer is 'yes' for *reductio*. If there were a world where $p$ is possible in virtue of some non-factive operator, then there would be a world where the possibility of $p$ did not entail the existence of some world where $p$. But according to (1), the possibility of $p$ entails that there *is some* possible world where $p$, and this necessarily so. So if the answer is 'yes,' it would follow that (1) is in fact not a proper translation schema for the modal realist. But this is absurd, for surely (1) *is* the proper translation schema for the modal realist. It follows then that there is no world where $p$ is possible in virtue of some non-factive operator, that is, that (5) is false. But then (3) is impossible, and so invalid, according to modal fictionalism's own translation schemas. Modal fictionalism appears rotten to the core.

In order to be as clear as possible here, (3) may be better stated as:

(3-*df.*) $\Diamond p =_{df.}$ According to MR, at some possible world $p$

Making the same and necessary steps as before, we arrive at:

($\Diamond$-3-*df.*) $\Diamond(\Diamond p$ =*df.* According to MR, at some possible world $p$)
=*df.* According to MR, at some possible world '$\Diamond p$ =*df.*
According to MR, at some possible world $p$'

Again, it is not true that according to modal realism, there is a possible world where '$\Diamond p$ =*df.* According to MR, at some possible world $p$' is true, for it is not true that according to modal realism, there is a possible world where possibility statements are defined according to some non-factive operator. But this entails the falsity of (*3-df.*).
(5) would be true if it were:

(6) According to MR, at some possible world '$\Diamond p$ $\leftrightarrow$ At some possible world $p$'

Or what amounts to the same thing:

(6) According to MR, at some possible world (1)

But given (*3*), (6) entails

(7) $\Diamond(1)$

(7) coupled with the fact that if a translation schema is possible, then it is necessary (translations schemas are in this sense analogous to mathematical propositions), entails that if (6), and therefore (7), are true, then (1) is necessary, and so actual.[9] But the truth of (6) is not in doubt, and so the modal fictionalist is committed to (1) in the actual world, contra modal fictionalism.[10]

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[9] Some recent literature has called into doubt the thesis that if a mathematical proposition (or translation schema) is true, then it is necessarily true (true in *every* single world) owing to the fact that it is in some sense conceivable (or intelligible) that, for example, numbers do not exist (or modal realism is false). If either of these is conceivable (intelligible), then there are possible worlds where certain mathematical propositions and translation schemas are false even though there are possible worlds where they are true. See Rosen (2006).
[10] We could construct an analogous argument using (4). Since

(6#) According to MR, at every possible world '$\Diamond p$ $\leftrightarrow$ At some possible world $p$'

is true, then (6#) and (4) entail

(7#) $\Box(\Diamond p$ $\leftrightarrow$ At some possible world $p$)

Notice that there are two separate, though not entirely independent, arguments at work. The first argument showed how ($\diamond$-3) entailed the invalidity of (3). The second argument banked on the obvious truth of (6), which, with a few intermediate steps, entails (1). But if (1) is valid, then modal fictionalism's translation schemas are invalid. It seems then that the translation schemas the fictionalist uses entails the invalidity of those translation schemas. Is there any way out of this self-referentially defeating position?

## 4  Objections

### A. The Timid Fictionalist Objection

Now it seems that such arguments are not applicable to the timid fictionalist. A timid fictionalist is one who is not claiming or seeking to provide an *analysis* of modal notions, a *definition* of modal terms, or the *truth-conditions* for modal statements. In short, timid fictionalism is not providing *translation schemas*. Instead, what timid fictionalism banks on by appealing to world-fictions is its obvious heuristic property; its usefulness in clarifying modal discourse. Given this, the timid fictionalist will reject (3) as constituting a translation schema and so not incur the problems above.

A number of things need to be said here: i) Fair enough. Timid fictionalism need not accept (3) and so avoids being charged with incoherence on this point. But in fairness to myself, I am not criticizing timid fictionalism (see fn. 6) and so cannot be accused of failing to provide a substantive argument. ii) Even if a timid fictionalist can avoid commitment to (3), it would seem like she would still be committed to (6), which entails (1), even if (3) is *not construed as a translation schema* but merely as a heuristic device for modal statements. However, the timid fictionalist want will eschew (1) given its quantification over possible worlds. To be sure, a timid fictionalist need not always appeal to a world-fiction in order to help elucidate modal discourse. Timid fictionalism need only view such an appeal as necessary when helpful, and in cases like (6) a timid fictionalist could claim that appealing to a world-fiction is anything but helpful. But this leads to my next point. iii) If such a move is made, and given timid fictionalism's already modest goals, one is apt to be left unsatisfied. As Daniel Nolan and John Hawthorne have said "the explanatory role that fictions can play in nominalist strategies [e.g. timid fictionalism] of avoiding ontological commitment…can only be limited. The serious metaphysical explanations of modality…must be sought elsewhere."[11] To reiterate this point, timid fictionalism lacks explanatory value because it cannot consistently be applied to every modal claim on pain of committing to the existence of possible worlds *and* it fails to provide a robust analysis or substantial explanation of modal terms. Thus, timid fictionalism fails to satisfy.

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But since '$\Box p \to p$,' it follows that '$\diamond p \leftrightarrow$ At some possible world $p$,' contra modal fictionalism.

[11] Nolan and Hawthorne (1996): 32.

*B. The 'No Iteration' Objection*

Perhaps the modal fictionalist can forgo the legitimacy of iterated modal operators, and if so, forgo ($\Diamond$-3) and (7). Since '$\leftrightarrow$' represents the truth-function for the strict conditional, (3) is equivalent to:


(3`) $\Box(\Diamond p \equiv$ According to MR, at some possible world $p)$[12]


The left hand side of ($\Diamond$-3) is now:


(8) $\Diamond\Box(\Diamond p \equiv$ According to MR, at some possible world $p)$


But if (8) is illegitimate because of the iterated modality, then the argument against modal fictionalism fails for it necessarily makes use of (8). (7) is likewise ill-formed, iterating modalities when it should not:


(7`) $\Diamond\Box(\Diamond p \equiv$ at some possible world $p)$


When the outer modality is excluded, as it should be if iterated modalities are illegitimate, we are left with a translation schema the fictionalist will reject, being modal realism's very own (1).

Although this move by the fictionalist *may* avoid the present problems, it comes with a price. Rejecting iterated modalities in order to avoid incoherent translation schemas is ad hoc. A rationale independent of the problems raised for modal fictionalism in this paper is needed if one is going to reject iterated modalities. Furthermore, insofar as modal fictionalism is giving an analysis of what philosophers call *broadly logical* or *metaphysical* possibility—possibility *period, full-stop, simpliciter*—modal fictionalism seems to have failed. For such possibility is generally taken to adopt some strong modal system **S4** or **S5**, both containing an axiom and theorems permitting the inference from well-formed formulas with a single modal operator to well-formed formulas with iterated modal operators, and vice-versa in the case of the theorems.[13]


*C. Other Possible Objections?*

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[12] The '$\equiv$' should be understood as the truth function for the material bi-conditional.

[13] In fact, rejecting iterated modalities does not overcome the problems it intended to. For example, the truth-condition for (3`) is 'According to MR, at every world '$\Diamond p \equiv$ According to MR, at some possible world $p$" But it is not true that according to modal realism, at every world $\Diamond p$ is true in virtue of a non-factive operator. So (3`) comes out false. But (3`) just is modal fictionalism's translation schema for possibility statements.

Most of the literature on modal fictionalism has concentrated on the celebrated Brock/Rosen objection (BRO).[14] BRO is as follows:

    (9)  According to MR, at every possible world, there is a plurality of worlds

    (10)  $\Box$(There is a plurality of worlds) $\leftrightarrow$ According to MR, at every possible world, there is a plurality of worlds

    (11)  $\Box$There is a plurality of worlds

    (12)  There is a plurality of worlds

Premise (9) is above reproach, and (10) just is an instance of translation schema (4). (11) follows given (9) and (10), and (12) follows due to the rule '$\Box$-elimination.' But clearly the modal fictionalist will want to renounce the ontologically guilty (12). The main responses to BRO have either tinkered with modal fictionalism's translation schemas while retaining the non-factive operator *or* understood 'there is a plurality of worlds' as being elliptical for 'according to MR, there is a plurality of worlds,' keeping (12) guilt free. It is not obvious how either of these moves will provide an answer to the worries raised in this paper. So long as the non-factive operator remains, an argument structurally identical to the one given in this paper could be advanced showing that modal fictionalism's translation schemas are invalid. Furthermore, how we ought to understand 'There is a plurality of worlds' seems irrelevant with respect to the arguments given in this paper. As far as I can tell then, there seems to be nothing in the literature on modal fictionalism that would mitigate against the arguments given in this paper.[15]

## 5  Universals Fictionalism

Can my argument against modal fictionalism be applied to other types of fictionalisms? Take the standard translation schema given by the property realist for '$x$ is $F$,' where the 'is $F$' predicates $F$-ness to $x$:

    (13)  $x$ is $F$ $\leftrightarrow$ $F$-ness is instantiated by $x$

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[14] See Brock (1993), Rosen (1993), Menzies and Pettit (1994), Noonan (1994), Chihara (1998), Divers (1999), Kim (2002), Woodward (2007), and Liggins (2008). A distinct criticism of MF is made on the basis of the semantics of the non-factive operator. See Hale (1995*a*), (1995*b*) and Rosen (1995).

[15] In a longer version of this paper, I discuss what I take to be the most sophisticated response to BRO, Richard Woodward's 'paraphrastic fictionalism.' See Woodward (2007). I conclude that although it is perhaps not as obvious how Woodward's brand of fictionalism succumbs to the arguments given here, a little reflection shows that it does.

The fictionalist will resort to the 'story prefix' here and construe '$x$ is $F$' as:

(14) $x$ is $F$ ↔ According to the fiction of universals, $F$-ness is instantiated by $x$

Now if we take (14) and predicate of it 'is the correct translation schema for any subject-predicate statement,' call this predicate $C$-$TS$, we have:

(15) (24) is $C$-$TS$ ↔ According to the fiction universals, $C$-$TS$ is instantiated by (24)

Unfortunately for the fictionalist, the right hand side of (15) is false since according to the fiction universals, it is not (14) but (13) that instantiates $C$-$TS$. It follows then that the left hand side of (15) is false and so (14) is not the correct translations schema for any subject-predicate statement. Fictionalism about universals is self-referentially defeating.

## 6 Reflexive Fictionalisms

Daniel Nolan and John Hawthorne give an argument purporting to show a structural flaw in fictionalist theories. Their argument strategy is as follows: Take a disputed domain of objects—a domain of objects the realist quantifies over and the fictionalist does not—where some operator or predicate is applicable to the objects in that domain *and* where the operator or predicate entails ontological commitment to the relevant objects. Take the fictionalist's translation schema with its story-prefix and provide a translation of sentences whose content includes the application of an ontologically committing operator or predicate to the relevant object. If the right-hand side of the translation schema comes out true, then so does the left-hand side, and the fictionalist is committed to quantifying over those very objects it repudiated. A salient example of this is the Brock/Rosen objection where the relevant objects are possible worlds and the ontologically committing operator is the necessity operator (See BRO, section 4.c above). Another example, given by Nolan/Hawthorne, concerns mathematical fictionalism where the ontologically committing operator is 'there are $n$,' where $n$ is some number, the relevant objects are numbers, and the operative translation schema is:

(16) For any sort of entity $E$, there are $n$ $E$s ↔ According to the mathematical fiction, the number $N$ numbers the $E$s

Nolan/Hawthorne show that the mathematical fictionalist who espouses (16) is committed to the existence of numbers given:

(17) There are (at least) three numbers ↔ According to the
mathematical fiction, the number Three numbers the numbers
(or at least numbers some subset of the numbers)

Since the right-hand side of the bi-conditional is true, so then is the left-hand side and the mathematical fictionalist is committed to the existence of numbers.[16] A similar argument against fictionalism about universals takes some instance of (14):

(18) Redness is monadic ↔ According to the fiction about
universals, monadicity is instantiated by redness

Insofar as any true subject-predicate sentence implies the existence of the thing denoted by the subject term, (18) commits the fictionalist about universals to the existence of Redness given the truth of the right-had side. Nolan/Hawthorne call the class of fictionalisms that are susceptible to this line of reasoning 'reflexive fictionalisms' because "it is possible to apply the relevant operator or predicate in claims about the relevant fictional objects."[17]

It should be clear that the argument against modal fictionalism given in this paper, although similar in certain respects, is distinct from the argument Nolan/Hawthorne give. Unique to my argument is not that it is possible to apply the relevant operator or predicate in claims about the relevant fictional *objects,* as Nolan/Hawthorne's argument does, but that it is possible to apply the relevant operator or predicate to the fictionalist *translation schema* in such a way that that translation schema comes out false and/or invalid. In light of this, it is appropriate to call the fictionalisms that belong to the class that Nolan/Hawthorne's argument applies to 'Object-Reflexive Fictionalisms' since the relevant operator or predicate is applicable to the relevant fictional object. It is appropriate to call the fictionalisms that belong to the class that the argument in this paper applies to 'Schema-Reflexive Fictionalisms' since the relevant operator or predicate is applicable to the fictionalist translation schema. What Nolan/Hawthorne's argument and the argument given in this paper do have in common is their pointing to some structural flaw latent in fictionalist theories in virtue of some reflexive property those theories instantiate.

A virtue of the object-reflexive argument over the schema-reflexive argument is its wider application. As already demonstrated, it applies to modal, universals, and mathematical fictionalism. The schema-reflexive argument does not apply to mathematical fictionalism for it is a category mistake to predicate of the mathematical fictionalist's translation schema some numerical value. Mathematical fictionalism does not belong to the class of schema-reflexive fictionalisms.

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[16] See Yablo (2001) for a response to Nolan/Hawthorne on behalf of the mathematical fictionalist.

[17] Nolan and Hawthorne (1996): 26.

A virtue of the schema-reflexive argument over the object-reflexive argument is the fact that it does not rely on applying an existentially committing operator/predicate to an object repudiated by the fictionalist. Since the relevant object is one the fictionalist wishes not to commit to, it is well within the rights of the fictionalist to paraphrase sentences that appear to ontologically commit to the relevant object in such a way where no ontological commitment takes place.[18]    However, since the relevant fictionalist translation schema is one that the fictionalist *is* committed to, no paraphrase strategy is open to the fictionalist.   Applying an operator or predicate to the relevant translation schema—possibly '$\diamond p$  $\leftrightarrow$  At some possible world $p$'; '$x$ is $F$  $\leftrightarrow$  According to the fiction of universals, $F$-ness is instantiated by $x$' is the correct translation schema—is not something that the fictionalist should object to on fictionalist grounds.   The fictionalist is committed to, *sans* paraphrase, such sentences.

## 7  Concluding Remarks

The virtue—or vice, depending whose side you are on—of the argument given in this paper is its attack on the very cogency of the fictionalist's translation schemas.  If those translation schemas are valid, then they are not valid, and so must be invalid.  My argument is in this sense quite distinct from BRO in that it entails that either i) modal fictionalism must give up on an analysis of modality or ii) seek another account.  BRO does not entail either of these, for even if BRO holds, it still would not follow that modal fictionalism's translation schemas are invalid, but only that the very motivation—not wanting to commit to a plurality of worlds—under-girding those translation schemas is no longer a viable one.[19]  There may be other reasons to be a fictionalist since modal realism is not merely the thesis that a plurality of worlds exists, but that such worlds account for the truth and falsity of modal statements.  Indeed, some have found this aspect of modal realism just as problematic as its bloated ontology.[20]   However, if the argument in this paper is sound, then we should be less concerned about being a realist than a fictionalist; less concerned about committing to worlds in our theory than to the fictionalist's fictional theory.

## References

[18] For paraphrase strategies, see Yablo (2001), Woodward (2007), and Liggins (2008).

[19] The literature seems to suppose that BRO, if valid, entails that modal fictionalism is self-defeating.  Strictly speaking though, BRO *does not* entail the falsity of modal fictionalism insofar as modal fictionalism is characterized by (3) and (4).  It is perfectly consistent to posit a plurality of worlds in our ontology and yet hold to (3) and (4).  BRO, if valid, does entail that the modal fictionalist cannot be an anti-realist about possible worlds.

[20] See van Inwagen (2001): 226.

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