

Fictionalist Strategies in Metaphysics

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[This is the penultimate draft of a paper published in the *Routledge Handbook on Metametaphysics*, please cite the published version.]

1. Introduction

We often find ourselves in a predicament. On the one hand, we find it congenial to talk about things of various sorts: the *hole* in the cheese, the *number* of planets, the *property* shared by all spiders, the *possible worlds* at which things are different, and so on and so forth. But on the other hand, we find it difficult to accept that there really are such things. For these things are troublesome: they offend our taste for desert landscapes and raise difficult questions about how we could know about them. So we are presented with a dilemma: either we give up our ontological scruples and embrace the existence of troublesome entities, or we reject their existence and revise our linguistic practices.

Fictionalists hope that we can have our cake and eat it, that our linguistic practices can be reconciled with our ontological scruples. After all, the things we say in the context of our engagement with fiction provides a paradigm case where we do not find it so problematic to talk about entities in whose existence we do not believe: we often say things like “some elves are nimble” or “Holmes is a detective” even though we do not believe that there really are elves or a brilliant detective living at 221b Baker Street. So perhaps our talk of fictional things can be used as a model for understanding our talk of troubling entities, and thereby a way of talking with the vulgar but thinking with the wise. Such fictionalist proposals are common, having been offered in the case of mathematical objects (Field 1980, 1989), unobservable entities (van Fraassen 1980), possible worlds (Rosen 1990), composite objects (Rosen and Dorr 2002), fictional characters (Brock 2002), scientific models (Frigg 2010), propositions (Armour-Garb and Woodbridge 2010), colours (Gatzia 2010) and beyond.

This conception of the fictionalist’s project is broad and irenic, picking out a genus of which there are various species, and the more specific content of a fictionalist proposal will vary depending on exactly how the basic idea is fleshed out. Here, we provide an overview of what we take to be the core choice points facing the fictionalist, as well as a survey of some of the main issues facing the viability of fictionalist strategies.

2. The Analogy with Fiction

The term “fictionalism” and its cognates are used widely and wildly in the literature, and one would be forgiven for thinking that “fictionalism” is nothing more than a term of philosophical fashion, with nothing unifying the various proposals that have been given the label. For our part, we think that the most minimal and inclusive conception of fictionalism takes fictionalists about a given discourse — talk of numbers, or talk of properties, etc. — to accept something like the following (for alternative attempts to characterize fictionalism see e.g. Kroon (2011: §2), Armour-Garb and Woodbridge (2015: Ch.1)):

The Analogy

The target discourse can usefully be interpreted by analogy with a natural way of interpreting paradigmatically fictional discourse, and the ensuing account of the target discourse supports an anti-realist account of its apparent subject matter.

To see the import of **The Analogy**, consider its application to a particular case. So, e.g., mathematical fictionalists emerge as holding that the sentences of mathematical talk should be interpreted by analogy with a natural way of interpreting sentences like ‘most elves are nimble’ and that the ensuing account of mathematics supports an account of the apparent subject matter of mathematical talk — numbers, sets, functions, etc. — that is anti-realistic in character. A number of points merit attention.

Firstly, the fictionalist tells us only how mathematical talk *can usefully* be understood. Her claim is thus distinct both from the more straightforwardly descriptive claim that *do in fact* understand mathematics along fictionalist lines as well as from the more straightforwardly normative claim that we *should* do so. Accordingly, the fictionalist's project is neither 'hermeneutic' nor 'revolutionary' to use some jargon that has become popular in the literature (see Stanley 2001, for the origins of the distinction see Burgess 1983, and Burgess and Rosen 1997). Both the hermeneut and the revolutionary agree that we can and should be fictionalists; they disagree on whether we are. **The Analogy** is endorsed by both hermeneuts and revolutionaries, and the core elements of a fictionalist proposal can be enriched in either direction. Indeed, fictionalism could be developed in neither direction, for the distinction between hermeneutic and revolutionary fictionalisms is not an exhaustive one: for instance, van Fraassen's claim in the case of defending his fictionalist account of unobservables is not that his approach is not that scientists *are* fictionalists, nor that scientists *should* be fictionalists, but rather that scientists *can* be fictionalists (see Van Fraassen 1980, 1994; Rosen 1994). It is for this reason that we chose not to build a stronger descriptive or normative element into our formulation of **The Analogy**.

Secondly, what's important is 'paradigmatically' fictional discourse. It's familiar that our engagement with fiction is multi-faceted. We have *authors* who create, *audiences* who consume, *critics* who analyze, and so on. The distinctions here are not clean cut, but different things still seem to be going on in each case. What's relevant to fictionalism, at least as we understand it, is the type of fictional discourse that is exemplified when someone is talking to you about *The Hobbit* and tells you that some elves are nimble. In this setting, it is consumers of fiction rather than authors or critics who serve as the paradigm. Our use of 'talk of fiction' and 'fictional discourse' should be understood in this light.

Thirdly, the proposed analogy isn't between the target discourse and fictional discourse, but the target discourse and a 'natural interpretation' of fictional discourse. Not only does this leave it open whether the natural interpretation is the right one, it's also consistent with there being various equally natural interpretations of fictional discourse and two fictionalists might disagree about which of these is relevant to the proposed analogy. In any case, we stress that it isn't built into fictionalism that what's going on when we say things about numbers (e.g.) is continuous with what's going on when we say things about elves. It might be odd to be a fictionalist (and hence an anti-realist) about, say, numbers while being a realist about fictional characters (by regarding them as, say, abstract artifacts) but such combinations of views shouldn't be ruled out by fiat, and the analogy is formulated to avoid doing just that: you can still regard an anti-realistic interpretation of talk about elves as natural, even if you don't think it is the view to be adopted all-things-considered. Moreover, even once the fictionalist has settled upon a particular basis for the analogy, we've yet to be told how tight it is meant to be. For instance, is the analogy with fiction just meant to remind us that we can use sentences without committing ourselves to the entities we seem to be talking about? Or is some richer analogy with fiction intended? If so, what is it and what purposes does it serve?

Finally, even once we've settled both the nature and tightness of the analogy, the account of mathematical talk that the fictionalist hopes to build on these foundations is only meant to support an anti-realist account of the 'apparent' subject matter of mathematics, and that's consistent with the claim that the real subject matter of mathematics is number free. Indeed, some fictionalists have argued that the 'real' subject matter of the target discourse is not the subject matter that one might initially identify (see Yablo 2001, who suggests that the real subject matter of a claim like "the number of planets is eight" only concerns planets rather than numbers too).

At least in these ways, then, endorsing **The Analogy** is the start of the story rather than the end of it. That's to say that the fictionalist has choices, and that more specific proposals can be delineated in terms of how these choices are made. One upshot is that the commitments of fictionalism, as well as its benefits and problems, will vary depending upon the exact nature of the proposal at hand. For the purposes of this survey, however, we choose to focus on issues that we think arise for a great many (if not all) fictionalist strategies.

3. Fictionalist Paraphrases

Given that the core element of a fictionalist proposal is captured by a claim as weak as **The Analogy** it's unsurprising to learn that fictionalists disagree about how the approach should be cashed out and thereby about how fictionalism is best developed. Be that as it may, we can identify one core idea that is often found in textbook presentations of fictionalism: the importance of what we will call *fictionalist paraphrases*. A fictionalist paraphrase in the intended sense is simply a mapping from sentences that concern troubling entities to sentences that concern the content of a fiction. Some examples: Field (1980) paraphrases the claim that there are prime numbers as: *it is true according to standard arithmetic that prime numbers exist*; Rosen (1990) paraphrases the claim that there are possible worlds as: *it is true according to modal realism that possible worlds exist*; Brock (2002) paraphrases the claim that fictional characters exist as: *it is true according to fictional realism that fictional characters exist*; and Cian Dorr (2005) paraphrases the claim that tables exist as: *it is true according to universalism that tables exist*.

What we have in each case, then, is a mapping from sentences which seemingly can only be true if reality contains certain things to sentences which seemingly can be true even if reality lacks those very things. For even if reality lets us down and fails to contain things like numbers or tables or fictional characters, it can still be true that such things exist according to certain theories. For it is well known that story-operators are *non-factive* in the sense that p 's being true according to some fiction or theory doesn't entail that p is true tout court. It would be madness to think we can infer that there really are elves from the fact that it is true according to *The Hobbit* that elves exist. Moreover, insofar as these kinds of 'theory-shadowing' paraphrases are distinctive of fictionalist proposals, they help to see the appropriateness of the label 'fictionalism' — after all, it is natural to think everyday utterances of sentences like "there are elves" are acceptable (perhaps even true) because in the relevant contexts those sentences are best interpreted as concerning what is true according to some salient work of fiction.

But even though the appeal to theory-shadowing paraphrases is distinctive of fictionalist proposals, the more interesting issue concerns not their presence but their purpose and significance. Indeed, the species of fictionalism can be demarcated, at least in part, precisely in terms of the respective theoretical roles that each associates with fictionalist paraphrases.

The main choice point facing the fictionalist can be illustrated nicely by analogy with the things we say about fictional characters, events and places. Suppose that Alice and Billy are discussing *The Lord of the Rings* and Alice claims that some elves are nimble. Despite the fact that there are no such creatures as elves, there is a natural sense in which Alice's claim is correct because it is true according to Tolkien's story that there are such creatures and that some of them are nimble. Indeed, given the topic of their conversation, it would seemingly be incorrect for Alice to claim that no elves are nimble. For despite the fact that there are no such creatures as elves (and hence, that none of them are nimble), such a claim seems incorrect because it is false according to Tolkien's story that no elves are nimble. The facts about what is and isn't true according to some relevant story thus often seem to determine whether or not the things we say about fictional character are appropriate (correct) or inappropriate (incorrect). But whilst this observation is common ground in the debate, the crucial question concerns whether the relevant standard of correctness is distinct from truth. And here we are drawn in two competing directions. On the one hand, the fact that there are no such creatures as elves strongly suggests that Alice spoke falsely when he she claimed that some elves are nimble. But on the other hand, the fact that she and Billy were discussing the goings-on in *The Lord of the Rings* tempts us to hold that Alice spoke truly because what she meant was that it is fictional that some elves are nimble. Hence, on the first proposal, Alice spoke falsely but correctly, whereas on the second proposal, she spoke correctly because she spoke truly.

We can accordingly distinguish two fictionalist strategies, based on two alternative conceptions of the role of fictionalist paraphrases. On the first proposal, the fictionalist about unobservable entities thinks that sentences like "there are electrons" are false but

nonetheless appropriate or correct because it is true according to standard physics that there are such things, and the mathematical fictionalist thinks that sentences like “there are functions” are false but nonetheless appropriate because it is true according to standard maths that there are such things. We call this view *committal* fictionalism because the fictionalist who pursues this option thinks of sentences like “there are electrons” or “there are functions” as being *ontologically committed* to electrons or functions insofar as their truth requires the existence of such things. Indeed, it’s precisely the fact that this requirement is not met — or so the fictionalist thinks — that explains why the committal fictionalist does not accept that these sentences are true.

On the second proposal, by contrast, the fictionalist thinks that the things we ordinarily think and say are not only correct but true because what is really meant by sentences like “there are electrons” or “there are functions” is that it is true according to standard physics that there are electrons or true according to standard maths that there are functions. We call this view *non-committal* fictionalism because the fictionalist who pursues this option thinks of sentences like “there are electrons” or “there are functions” as being *ontologically innocent* insofar as their truth does not require the existence of such things and instead requires that it is merely fictional that there are such things. Indeed, it’s precisely the fact that this requirement is met — it is fictional that there are such things — that explains why the non-committal fictionalist accepts that these sentences are true.

Moreover, though we have distinguished these two proposals in broadly semantic terms, i.e. in terms of whether or not the things we ordinarily think and say are true, the committal and non-committal fictionalist will have correspondingly different accounts of other aspects of our linguistic practices. For instance, the non-committal fictionalist can straightforwardly accept that the speech acts that we perform when we say things about electrons and functions are assertions that are judged to be correct or incorrect depending on whether or not what is asserted is true: it’s just that such a fictionalist appeals to fictionalist paraphrases to specify the *content* of what is asserted. And similarly, the non-committal fictionalist can also allow that we express beliefs when we say that there are electrons or functions: it’s just that she appeals to her paraphrases to specify the *content* of what is believed. By contrast, the non-committal fictionalist cannot straightforwardly accept that we are making assertions or expressing beliefs, since on her view we speak falsely when we say things like “there are electrons” or “there are functions”. Accordingly, the non-committal fictionalist will instead see us as performing a speech act that is distinct from assertion (typically called *quasi-assertion* or *pretend assertion*) and as expressing a mental attitude that is distinct from belief (typically called *acceptance*).

4. Objections to Fictionalism

There is no shortage of objections to fictionalist approaches in metaphysics. But many of these objections only arise for more precise *species* of fictionalism and do not thereby threaten to establish that the *genus* is somehow problematic in a more global way. For instance, some have thought that mathematical fictionalism is empirically wrong given that young children who suffer from autism generally find it difficult to engage in pretence but do not generally find it difficult to learn mathematics (see Stanley 2001, for discussion see Liggins 2010, Kim 2014). But obviously this worry only arises for fictionalists who both make pretence a central aspect of their account and also claim their account to be descriptively adequate. Similarly, some have thought that the fictionalists face a problem accounting for the ontology of fictions (see Nolan 1997): but even if we grant that fictions are abstract objects of some kind (sets of propositions, say), this worry will only arise with respect to fictionalists strategies focused on avoiding commitment to abstracta: no immediate worry arises with respect to fictionalist strategies focused on avoiding commitment to, for instance, composite objects or concrete possible worlds.

Given our focus on the features of fictionalism in general, then, we focus instead on objections that we think are more global, affecting many (if not all) fictionalist strategies. In particular, and continuing our emphasis on the role of fictionalist paraphrases, we will focus on two objections that arise due to specific fictionalist paraphrases that the fictionalist seems

forced to accept. Both of these objections first arose with respect to the fictionalist account of possible worlds bruited by Rosen (1990), and we will present them in that context.

4.1. *The Incompleteness Objection*

To begin, it is worth noting that though Rosen calls his account “modal fictionalism”, this is a misnomer: his target is to develop a fictionalist account of possible worlds rather than a fictionalist account of modality itself. Rosen’s fictionalist does not deny that some things are really possible — just that there really are other worlds at which these possibilities are realized. Hence, whereas other philosophers endorse biconditionals such as *It is possible for there to be blue swans just in case there is a possible world where swans are blue*, Rosen’s fictionalist instead endorses biconditionals like: *it is possible for there to be blue swans just in case according to the fiction of possible worlds, there is a possible world where swans are blue*. The distinctively fictionalist element is then that sentences such as “there is a possible world where swans are blue” can nonetheless be regarded as correct (and perhaps even true) because they can be understood as being elliptical for their fictionalist paraphrases.

However, ordinary fictions are incomplete. While we learn that Patrick Bateman has a worrying obsession with the aesthetic qualities of business cards, we do not learn what his favourite colour is. Thus, it would be wrong to say that, according to *American Psycho*, Bateman’s favourite colour is blue. But it’d be equally wrong to say that, according to *American Psycho*, it’s not the case that Bateman’s favourite colour is blue. The story is simply silent on the issue. Now, if the fictionalist’s chosen story is incomplete in the way that ordinary fictions are, trouble arises. For suppose that there is some claim Q^* about possible worlds such that neither Q^* nor its negation is true according to the fictionalist’s story. (Rosen’s specific example of such a claim is *there is world containing k -many objects*, where k is some suitably large infinite cardinal.) Calling that story *Modal Realism*, we thus have

- (1) It is not the case that according to *Modal Realism*, Q^*
- (2) It is not the case that according to *Modal Realism*, not- Q^*

But remember that the modal fictionalist thinks that claims about the content of *Modal Realism* are systematically linked to underlying facts about possibility and necessity, as illustrated by her endorsement of biconditionals like: *it is possible for there to be blue swans just in case according to the fiction of possible worlds, there is a possible world where swans are blue*. But now let Q be the modal claim corresponding to the claim about *Modal Realism* negated in (1) and not- Q be the modal claim corresponding to the claim about *Modal Realism* negated in (2). (Rosen’s specific examples of such claims are *it is possible for there to be k -many objects* and *it is not possible for there to be k -many objects*.) And recall that the fictionalist seems committed to endorsing the following two claims:

- (3) Q just in case according to *Modal Realism*, Q^*
- (4) not- Q just in case according to *Modal Realism*, not- Q^*

But now disaster follows since the fictionalist is committed to a flat-out contradiction: (1) and (3) commit the fictionalist to endorsing that it is not the case that Q whereas (2) and (4) commit the fictionalist to endorsing the negation of that very claim. Moreover, though the objection first arose with respect to modal fictionalism, it is not confined to that case. For example, mathematical fictionalists will face it too, when basing their fictionalism on a mathematical theory that is silent on certain relevant mathematical claims like the axiom of choice (Woodward 2012). Likewise, compositional fictionalists will face it when basing their fictionalism on a composition principle that allows for a certain kind of incompleteness (Skiba 2017).

We distinguish two kinds of response to the incompleteness objection. On the one hand, the fictionalist might grant that her story is incomplete — that is, grant the conjunction of (1) and (2) — but deny that contradiction follows. One strategy for doing so, initially suggested by Rosen but developed in more detail by Nolan (2011), does so by rejecting the

application of the fictionalist's schemata (3) and (4) in cases where the fiction is incomplete, the idea being that when the fiction is incomplete with respect to some claim about worlds, the corresponding modal claims are neither true nor false. The most obvious problem with this suggestion is that it is ad hoc: the only reason that the fictionalist has for thinking that the relevant modal claims are truth-valueless is to fix a structural problem in her own theory. Absent independent motivation, the response smacks of desperation (see Rosen 1990, Woodward 2012). An alternative version of this strategy, suggested by Skiba 2017, accepts the incompleteness of the fiction but denies contradiction follows by holding that the apparently contradictory commitment is not actually a contradiction because, in context, *Q and not-Q* expresses the consistent claim more perspicuously captured by the conjunction of (1) and (2).

On the other hand, the fictionalist might apply her schemata across the board but deny that contradiction follows by denying that her fiction is incomplete (see Fine (2003), Brogaard (2006), Nolan (2011)). For remember that the fictionalist is not a fictionalist about modality itself — her fictionalism concerns the existence of possible worlds, not the facts of possibility and necessity. So, for any modal claim, either that claim is true or it is not; in particular, either the modal claim *Q* is the case or its negation is. The subsequent idea is to use the modal facts themselves to generate the content of the fiction: if *Q* holds, then let *Q** be fictionally true, and if not-*Q* holds, let not-*Q** be fictionally true. One cost of this strategy is that any ambition to provide a reductive analysis of modality has to be given up, but this was unlikely to work anyway (see Nolan 1997 and section 5 below). Moreover, it is not clear how this solution can be extended to fictionalisms other than modal fictionalism (see Skiba 2017). An alternative version of this strategy, suggested by Woodward 2012, holds that the conjunction of (1) and (2) should be rejected because of how truth according to fiction works within the context of fictionalist strategies: given that *according to the fiction*, *P* is analysed in terms of the counterfactual conditional, *P would have been true had the fiction been true*, the fictionalist can motivate rejecting the conjunction of (1) and (2) on the grounds that it is a general structural feature of counterfactuals that, for any antecedent *A* and any consequent *C*, either the counterfactual *A would C* is true or the counterfactual *A would not-C* is true.

4.2 The Brock-Rosen Objection

Just like the Incompleteness Problem, the Brock-Rosen objection first arose in the context of modal fictionalism (Brock 1993, Rosen 1993). It begins by noting that, since the modal realist conceives of the existence of many worlds as necessary rather than contingent, the fictionalist seems committed to endorsing the following claim:

(BR1) According to Modal Realism, at every world, there are many worlds.

But again, the fictionalist's proposal is that the facts about the content of *Modal Realism* are systematically linked to underlying modal facts. That is, we have:

(BR2) Necessarily, there are many worlds just in case according to *Modal Realism*, at every world, there are many worlds.

But now disaster follows. For (BR1) and (BR2) together entail that it is necessary that there are many worlds. Moreover, since the fictionalist is not a fictionalist about modality, she seems forced to accept that it is strictly and literally true that it is necessary that there are many worlds. But given that necessity implies truth, the fictionalist seems committed to endorsing that it is strictly and literally true that there are many worlds — which is rather unfortunate given that the entire point of modal fictionalism was to avoid this commitment. Again, the Brock-Rosen objection is not confined to modal fictionalism. Nolan and Hawthorne (1996) observe that, just like modal operators can be applied to statements about worlds, so numerical operators can be applied to statements about mathematical entities. By reasoning similar to the above, they show how mathematical fictionalists are forced to

accept that it is strictly and literally true that there is at least one number (see also Yablo 2001).

As before, we distinguish two strategies of response available to the fictionalist. On the one hand, she might reject the initial premise of the Brock-Rosen objection, (BR1). The idea here is to be careful about exactly what it means to say, within the context of modal realism, that there are many worlds 'at' every world: for instance, swans exist 'at' our world because they are *part* of our world, but one might think that other worlds don't exist 'at' our world because they are not part of our world (see Noonan 1994 and Rosen 1995, building on Lewis 1968, for an alternative see Kim 2002 building on Bricker 2001). The most obvious problem here is that there is surely *some* sense in which the modal realist thinks that the existence of many worlds is necessary rather than contingent, which is what (BR1) was meant to express: the architect of modal realism, David Lewis, was after all explicit on the point (see Lewis 1986, p. 80; compare Divers 1999a). Whatever that sense is, then, there seems to be *some* sense in which the fictionalist is committed to endorsing (BR1) and thereby some sense in which she is committed to embracing the existence of many worlds.

On the other hand, the fictionalist might grant the initial premise of the Brock-Rosen objection, but deny the apparently ensuing commitment to the existence of other worlds. One version of this strategy has is that the relevant application of the fictionalist's general account, i.e. (BR2), applies in this case since it only applies to modal claims about ordinary objects rather than modal claims about possible worlds (see Nolan and Hawthorne 1996). And alternative strategy, suggested by Liggins 2008 and Woodward 2008, grants the premises of the Brock-Rosen objection but denies that the conclusion that follows is fatal to the fictionalist's project. The idea here is that the apparently fatal commitment is not actually a problem because, in context, *there are many worlds* expresses the innocent claim more perspicuously captured by (BR1).

5. *The Benefits of Fictionalism*

Suppose that all of the structural and technical problems that the fictionalist faces can be addressed. This would seem to put the fictionalist in a strong position to argue that her approach was preferable to alternative proposals since she could now argue that she has earned the right to speak about troublesome things like possible worlds without thereby being forced to accept that there really are any such things. Appearances, however, can be misleading. For even if the fictionalist's theory is more parsimonious than its rivals, it remains to be seen whether or not fictionalism is the best overall approach. Put otherwise: even if fictionalist is significantly *cheaper* than its rivals, those other theories may have *benefits* that outweigh the extra commitments that they enforce upon us. Indeed, the kind of fictionalist account of talk of possible worlds that we have been considering is directly conceived as an answer to Lewis's (1986) challenge to deliver "paradise on the cheap" — an account of possible worlds that delivers the benefits of his own theory in a theoretically less costly manner.

Whilst the fact that the subsequent literature has focused largely on the "costs" side of the equation is understandable, it has encouraged a somewhat *laissez faire* attitude to the benefits associated with fictionalism. Rosen, for instance, tells us that fictionalists "can have all the benefits of talking about possible worlds without the ontological costs" — but tell us neither which benefits he has in mind nor why exactly the fictionalist is in a position to enjoy them (see also Sider 2002). Even putting aside the controversies surrounding the question of whether Lewis's theory really does deliver the benefits he claims, this is particularly problematical since some benefits that Lewis claims his theory delivers can quite obviously not be enjoyed by the fictionalist. For instance, one of the explanatory benefits Lewis claims of his theory is its ability to provide identifications of various kinds of entities with constructions out of possible worlds: thus *propositions* are identified with sets of possible worlds and *properties* are identified with sets of possible individuals (1986: §§ 1.4, 1.5). But all hands agree that it is a requirement on the success of these identifications that there is a plurality of possible worlds beyond the actual world and a plurality of possible individuals

beyond the actual ones. And since the fictionalist cannot accept these commitments, at least some of the benefits of Lewis's theory are quite clearly off-limits to the fictionalist (compare Divers 2002).

Matters are more vexed with respect to the other benefits which Lewis associates with his theory, however, and here will we focus on two such benefits: the *conceptual* benefit of providing a reduction of modal concepts to non-modal concepts, and the *inferential* benefit of providing a first-order method of assessing the validity of modal arguments. We focus on these benefits not only because of their prominence in the relevant debate but also because they illustrate the ways in which different issues facing the fictionalist interact with each other. In particular, there is reason to think that she cannot simultaneously enjoy the conceptual and inferential benefits associated with Lewis theory.

Lewis claims that his theory provides a distinctive explanatory benefit: a reduction of modal concepts to non-modal ones. For instance, the concept of possibility is reduced to the concept of truth at some world, which Lewis argues can be understood non-modally within the context of his theory. Lewis claims that other modal concepts can be understood non-modally: necessity reduces to truth at all worlds, contingency to truth at some but not all worlds, impossibility to truth at no world, and that even more complex modal concepts like counterfactual dependence and supervenience can also be analysed non-modally (see Lewis 1986, and Divers 2002 for discussion).

Now, recall that whereas Lewis's account is built around schemata like *Possibly P iff P is true at some world*, the fictionalist's account is built around schemata like *Possibly P iff it is fictional that P is true at some world*. Accordingly, even if we grant that the concepts that figure in Lewis's analysis are non-modal in character, an extra concept appears in the fictionalist's analysis, viz. the concept of *fictionality* or *truth according to a theory*. The question of whether the fictionalist's analysis is genuinely non-modal, then, turns on the question of whether the concept of fictionality is non-modal. And as Rosen himself notes, the prospects of providing a non-modal analysis of fictionality do not seem to be very good since there is an intuitive connection between a proposition *p* being true according to a fiction and the truth of the various modal claims like "the fiction necessitates *p*" and "*p* would have been true had the fiction been true" (cf. Divers 1999b, Dorr 2005, Woodward 2010). But the fictionalist cannot understand fictionality in either of these ways without compromising any ambition she has to deliver a non-modal analysis of modal concepts. Rosen's official reply is to reject any analysis of fictionality in modal terms and indeed take the notion of truth according a theory as a primitive. The most immediate problem here is that the concept of fictionality doesn't look like a particularly good one to take as primitive: it is a concept that stands in need of explication rather than one in terms of which other concepts are explicated. A less immediate, but in our view equally pressing problem, is that there are reasons to think that the fictionalist *should* understand the concept of fictionality in modal terms. Illustrating this point, however, requires us to look at a different kind of benefit associated with talking about possible worlds.

Talking about possible worlds is often thought to be beneficial insofar as doing so provides a first-order method of assessing the validity of modal arguments: on a possible worlds analysis, the validity of the argument from *necessarily p* to *possibly p* is explained since it is understood as the argument from *p is true at all worlds* to *p is true at some world* which is just a simple case of universal instantiation. There are obvious reasons why making these transitions is often called the practice of 'doing modal logic by proxy'. For rather than assessing the validity of modal arguments by relying on the inference rules of a particular modal logic, we rely instead on the inference rules of (non-modal) first-order logic. The language of first-order logic thus provides a proxy language for the language of modal logic. And the main motivation for doing modal logic by proxy – indeed, the main reason why the practice is considered to be beneficial – is that the practice is *inferentially economical* in the sense that the set of inference rules in the proxy language is smaller than the set of inference rules in the modal language. (Compare the discussion of the inferential benefits of mathematics in Field (1980), whereby the main benefit associated with talk of numbers is its ability to make our inferential lives easier.)

But, as Divers (1999b) observes, it appears that the fictionalist can justify the practice of doing modal logic by proxy if and only if she can justify her acceptance of the following *Safety Result* (SR):

(SR) Necessarily, if B^* is a consequence of A^* , then B is a consequence of A

(where A and B are modal claims and their starred counterparts are their respective possible-world paraphrases). Divers goes on to argue that the fictionalist can establish the safety result — and hence can deliver the inferential benefits associated with talking about possible worlds — but in doing so analyses the concept of fictionality in modal terms. And though the specific analysis Divers uses, whereby *according to the fiction*, p becomes *the fiction necessitates* p , is not needed — Woodward (2010) shows how the safety result can be established given a counterfactual analysis of fictionality — the point emerges that whilst the fictionalist can enjoy the inferential benefits associated with talk of possible worlds, doing so seemingly requires her to understand the concept of fictionality in modal terms, and thereby admit that she cannot provide a thoroughly non-modal analysis of modal concepts. (A further potential cost of establishing (SR) with the help of the modal analysis of the fiction-operator is that she has to regard her fiction as merely contingently false, see Skiba (*forthcoming*) for an attempt to avoid this.)

The case of the modal fictionalist, then, provides a nice case study not only of the structural and technical difficulties that fictionalist strategies in metaphysics must overcome, but also of the problems that proponents of such strategies face when it comes to delivering the same range of explanatory benefits as are offered by alternative approaches. Moreover, it illustrates the interplay between the choices that the fictionalist makes in constructing her account and the overall assessing of a specific fictionalist proposal in terms of not only the theoretical costs it incurs but also in terms of the explanatory benefits it offers.

6. References

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