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Two Modal –Isms: Fictionalism and Ersatzism

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It is sometimes said that no living philosopher is a genuine modal realist. This is no doubt an exaggeration. But at least this much is true: while we all partake of possible world talk when philosophizing, most of us regard this talk as incurring no commitment to a plurality of concrete worlds.

Actualist accounts of the discourse about possible worlds are intended to explain how it is possible for us to enjoy the benefits of the discourse without Lewisian ontological commitments. The most popular of actualist accounts, perhaps, are ersatzism and fictionalism. Ersatzism, or ersatz modal realism, as David Lewis calls it,¹ is a bundle of views which have in common the fact that they deny that there is a plurality of concrete worlds. Instead of a plurality of concrete worlds there is a myriad of abstract entities purporting to represent ways that this world and its inhabitants might have been.

Fictionalism is likewise a collection of views denying that there is a plurality of concrete worlds.² Unlike ersatzers, however, fictionalists regard possible world talk as similar in important respects to literary fiction. Talk of merely possible worlds and their

inhabitants is to be treated on a par with talk of fictional objects, such as Sherlock Holmes. Both kinds of talk are literally untrue but true according to a certain fiction.³ For example, it is literally false, but true in the Conan Doyle stories, that there is a brilliant detective at 221b Baker Street. Likewise, the modal fictionalist insists that it is literally false, but true in the fiction of possible worlds, that there are merely possible worlds and merely possible objects.

Both sorts of view have encountered their fair share of criticism. The main charge against ersatzism is that it is unable to distinguish all the possibilities we can imagine, for example, the possibility of distinct but qualitatively identical worlds.⁴ To deal with this sort of problem a number of authors have proposed to treat possible world talk as making reference to a single abstract entity that purports to represent the entire space of possible worlds all at once.⁵

The main charges against fictionalism have been directed against what Gideon Rosen calls 'strong modal fictionalism'.⁶ Strong modal fictionalism does not merely treat possible world talk as fictional, it also offers an analysis of modal claims in terms of truth-in-fiction. The main charge against strong modal fictionalism is that the fiction it appeals to is radically incomplete. Rosen also offers a timid form of fictionalism that treats modality as primitive. The latter view seems to avoid the core criticism launched against its stronger cousin.

The differences between timid modal fictionalism and holistic ersatzism are small, but not marginal. I argue, among other things, that holistic ersatzism has difficulties accounting for ascriptions of cross-world relations. I begin with a brief account of the main reasons for preferring holistic ersatzism and timid modal fictionalism

to localistic ersatzism. I then defend timid modal fictionalism against recent incompleteness charges. Finally I turn to my criticism of holistic ersatzism.

I. Ersatzism

Lewis famously distinguished three kinds of localistic ersatzism:⁷ linguistic, pictorial and magical. All three kinds posit the existence of abstract surrogates ‘fit to play the same theoretical roles as the concrete possibilia that are to be rejected’.⁸ The surrogates play a dual role: they make it possible to truly say such things as ‘there is a possible world with blue swans’, and they are proxies for what they purport to represent. Linguistic ersatzism, says Lewis, identifies possible worlds with maximal consistent sets of sentences, pictorial ersatzism identifies them with ‘pictures or scale models’ that represent in virtue of isomorphism, and magical ersatzism identifies them with abstract entities that “magically” represent in virtue of their intrinsic nature. Lewis admits that he knows of no one who explicitly defends pictorial or magical ersatzism.⁹ But, he says, several authors have defended a non-linguistic form of ersatzism that keeps silent on the question of how the surrogates are supposed to represent.¹⁰

All versions of ersatzism, it seems, must take modality as primitive. It is obvious why the linguistic ersatzist needs primitive modality. She needs a way of ‘filtering out’ inconsistent sets of sentences, for instance, sets of sentences asserting the existence of round squares and married bachelors. But even non-linguistic ersatzism requires primitive modality. Non-linguistic ersatzists do not need to ‘filter out inconsistent candidates’.¹¹ But they do need to filter out abstract entities that fail to “represent” possible individuals. For example, what makes a picture or scale model an ersatz talking

donkey is that 'it could have been isomorphic to a talking donkey that was part of the concrete world'.¹²

That ersatzism must take modality as primitive does not undermine it. The purpose of ersatzism is to provide a reduction of possibilia, not modality. The main problem for ersatzism is that it lacks in descriptive power. The problem is roughly that the surrogates that are supposed to represent the possibilia fail to represent all the possibilities we can imagine.

Consider first linguistic ersatzism. We can imagine a pair of worlds and a pair of merely possible individuals such that the worlds would differ only by the individuals swapping qualitative roles. Since the linguistic ersatzist has only a qualitative language available for specifying merely possible individuals, there is no way for her to distinguish these possibilities.

A common reply to this objection is that it presupposes haecceitism—the view that worlds do not vary only in their qualitative characterizations. There is, however, another stronger objection that does not presuppose haecceitism. Here is Ted Sider's version.¹³

We can conceive of a world in which there are two kinds of non-actual matter: A-matter and B-matter, with nomic roles partially described as follows: A-matter attracts charged particles, B repels them. But we can also conceive of a world in which A- and B-matter have swapped roles: B-matter attracts charged particles, A-matter repels them. Since the linguistic ersatzist can construct non-actual possibilities only by using qualitative sentences describing what they would be like, they cannot distinguish these possibilities.

The objection goes away with certain assumptions about properties. One might, for example, insist that properties exist necessarily. If the actual world contains the uninstantiated properties of being made up of A-matter and being made up of B-matter, then one could include names of these properties in the world-making language. Alternatively, one might assume that properties have their nomic roles essentially, thus making role-swapping impossible. The main problem with both kinds of response is that it makes the theory of worlds contingent on the metaphysics of properties.

Non-linguistic ersatzism is not subject to the same problems. If it is possible for there to be two individuals in the Napoleon role, then there are two abstract surrogates purporting to represent them. There is, however, a related charge against non-linguistic ersatzism.¹⁴ Pictorial ersatzism, for example, is faced with the problem that each concrete individual in the actual world actualizes an indefinite number of abstract entities. For instance, since eternal recurrence is possible, it seems that there could have been two indiscernible individuals both playing the Napoleon role. So, there are two abstract entities purporting to represent these individuals. But then since Napoleon is isomorphic to both, both of these are actualized in the actual Napoleon. A similar objection can be formulated with properties instead of individuals. Consider any actual fundamental property P with nomic role R. Since eternal recurrence is possible, it seems that there could have been two indiscernible properties both with nomic role R. But then since P is isomorphic to both, both of these are actualized.

A natural way to respond here is again to make special assumptions about the metaphysics of individuals and properties. If, for example, there cannot be two indiscernible individuals, then a fortiori there cannot be two indiscernible individuals

both playing the Napolean role. Likewise, if all possible properties actually exist, then there could not have been properties numerically distinct from, but qualitatively identical to, any actual properties.

The upshot: there are responses available to the problem of descriptive power, but only at a steep price: they require special assumptions about the metaphysics of individuals and properties.

II. Fictionalism

Some believe the price of localistic ersatzism is high enough to justify turning to other strategies for doing modal metaphysics and semantics by proxy. The two most well-known alternatives to localistic ersatzism are fictionalism and holistic ersatzism. I shall deal with fictionalism in this section, and holistic ersatzism in the next.

Fictionalism, as Gideon Rosen originally formulated it,¹⁵ maintains that modal claims can be explicated in terms of talk of possible worlds. But rather than taking possible world talk at face value, fictionalists treat it on a par with talk of fictional objects, such as Sherlock Holmes. Both kinds of talk are untrue but true according to a certain fiction.¹⁶ For example, it is literally false, but true in the Conan Doyle stories, that there is a brilliant detective at 221b Baker Street. Likewise, it is literally false, but true in the fiction of possible worlds, that there are merely possible worlds, and merely possible objects.

The content of the possible world fiction is standardly taken to be David Lewis' 1986 theory of possible worlds plus an encyclopedia, that is, a list of all literally true, non-modal propositions.¹⁷ Following Rosen, S is a non-modal proposition just in case 'it

contains no modal vocabulary and entails neither the existence nor the non-existence of things outside our universe'.¹⁸

Where S is a claim in quantified modal logic (or another modal language), and S^* is a translation of S into the language of possible worlds, Lewis accepts some translation schema of the form:¹⁹

(R) S iff S^*

The modal fictionalist offers an alternative translation schema that utilizes a primitive story prefix, for instance, 'according to the Lewis story':

(F) S iff According to the Lewis story, S^*

In keeping with (F), a modal claim will be true iff its translation into the language of possible worlds is true in the Lewis story. So, for instance, 'there might have been blue swans' is true iff, according to the Lewis story, there is a possible world with blue swans. Likewise, 'there are no blue swans' is true iff according to the Lewis story, the actual world does not contain any blue swans. Fictionalism does not claim to reduce possible world talk to talk about what is true in the fiction. Since 'there is a possible world with blue swans' is false when genuinely asserted, the fictionalist recommends that we do not genuinely assert it, even though we may make as if to assert it.

Fictionalism does better than localistic ersatzism on two counts. First, the problem of descriptive power does not arise. Rosen mentions this as a reason to prefer

fictionalism to ersatzism.²⁰ Unlike the ersatzist, the fictionalist can accept talk such as ‘there exists a pair of worlds and a pair of non-actual fundamental properties such that the worlds differ only by the properties switching roles’. It is just that the talk is to be “interpreted” as occurring within the scope of an implicit story prefix. Second, as Rosen originally formulated it, fictionalism was intended to provide a reduction of modality. Though it is not necessarily a defect of ersatzism that it does not provide a reduction, it certainly is a virtue of a theory of worlds if it does provide one.

However, Rosen’s reduction of modal talk to talk of what is true in the fiction has proven problematic.²¹ One problem is that there are many matters with respect to which the fiction appears to be silent. Since modal truths are supposed to be analyzed in terms of truth-in-fiction, we cannot also take them to generate any of the content of the fiction. We can, of course, construct the fiction in accordance with our pre-theoretical notion of what is possible. But our ability to grasp what is possible is defective; for instance, we may be unsure about whether there is an upper bound to the number of individuals that may exist. But if our intuitions concerning possibilities are unreliable, then there is no guarantee that the fiction we construct provides an adequate reduction of all modal truths.

This sort of worry can be avoided if, as Rosen suggests, we take the equivalence schema (F) to provide ‘not a theory of possibility, but merely a theory linking the modal facts with facts about the story’.²² The result is what Rosen calls ‘timid modal fictionalism’.

Timid modal fictionalism fares better than strong modal fictionalism. First, because timid modal fictionalism does not aim at reducing modality itself, it is able to offer an analysis of the story prefix along the following lines:²³

$\Box(\text{According to the Lewis story, } S^* \leftrightarrow \Box(\text{The Lewis Story} \rightarrow S^*))$

Where S^* is a sentence in the language of possible worlds, and the embedded necessity operator is governed by S4, this says that necessarily, S^* is true in the fiction of possible worlds iff the fiction metaphysically implies S^* .

Second, since the fiction is required to respect the independent modal truths, all modal facts are correctly represented in the fiction. So, timid modal fictionalism does not run into the same sorts of incompleteness problems as its stronger cousin.

III. The Ersatz Pluriverse

Another way to resist the problem of descriptive power is to go holistic. Holistic ersatzism has been defended by a number of authors, including Authur Prior, Kit Fine, Daniel Nolan, and Sider.²⁴ I shall here focus on Sider's version. Sider proposes to treat possible world talk as talk about a single proxy pluriverse that purports to represent all the possible worlds and individuals at one fell swoop. More carefully: since there will be many entities that represent the pluriverse equally well, possible world talk must be treated as talk about proxy pluriverses (in the plural). But, says Sider, ideally these entities will be either isomorphic (modal models) or equivalent (pluriverse sentences).²⁵

The proxy pluriverses are either Kripke models or pluriverse sentences interpreted in these models (i.e., maximal descriptions of a modal model). The modal models contain sets of actual entities that represent worlds, possible individuals, possible properties (and possible relations). Since the models contain only actual entities,

pluriverse sentences interpreted in these models do not incur a commitment to Lewisian possible worlds or individuals. For instance, we might treat actual paper clips as representing worlds, actual pens as representing individuals, actual lamp shades as representing properties, and so on.

The pluriverse sentences and the sentences to be reduced (e.g. ‘there is a world with blue swans’) are constructed in an infinitary possibilist language. Modal claims are constructed in an infinitary modal language. Both languages are assumed to be Lagadonian, that is, individuals, properties and relations name themselves (any examples, of course, must be given in English).²⁶ The main difference between the two languages is that where the possibilist language contains variables ranging over worlds, a constant @ naming the actual world, and the predicate ‘exists in’, the modal language contains a possibility and a necessity operator. The two languages are interpreted in the same modal models.

A canonical pluriverse sentence has the following form:²⁷

THERE ARE worlds $\underline{w}_1, \underline{w}_2 \dots$ and THERE ARE properties and relations $\underline{p}_1, \underline{p}_2 \dots$ that are distinct from the following actual properties and relations: \dots , and THERE ARE possible individuals $\underline{x}_1, \underline{x}_2, \dots$ that are distinct from the following actual individuals: \dots , such that: $\dots \underline{w}_1 \dots$ and $\dots \underline{w}_2 \dots$ and \dots

The conjunction at the end of the pluriverse sentence contains an open clause for each possible world. The pluriverse sentences furthermore contain a completeness clause stating that there are no worlds other than those denoted by @ and the variables \underline{w}_i , and

no individuals or properties other than those denoted by the Lagadonian constants and the variables x_i and p_i .

Sentences that have this form will not in general be realistic. Some models contain “worlds” with “married bachelors” and “round squares”.²⁸ Maximal descriptions of such models do not adequately represent the pluriverse. A description or pluriverse sentence adequately represents the pluriverse iff it is true with respect to realistic models, where a model is realistic if “it is faithful to the modal facts”.²⁹ Truth in a modal language determines what the modal facts are and thus which modal models are realistic. For example, since round squares are impossible, there is no realistic model containing a world with a round square. So, no pluriverse sentence that adequately represents the pluriverse entails that there is a world with a round square, which is as it should be. Since non-modal truths about the real actual world are true in the modal language, the actual world will encode all non-modal truths about the real actual world in any realistic model.³⁰

Sider proposes two different ways of reinterpreting possible world talk, a linguistic version and a non-linguistic version:

Pluriverse (linguistic version): Reinterpret S as the assertion that S is entailed by all (realistic) pluriverse sentences.

Pluriverse (non-linguistic version): Reinterpret S as the assertion that S is true in every realistic model.

where S is a sentence in the possibilist language. Since Sider finds the linguistic version more attractive, we shall focus on this version in what follows.

Though the sentences to be reduced are indeed assigned truth-conditions via modal models, Sider admits that some kinds of possible world talk are treated as false. For example, when used to deny genuine modal realism, ‘there are no possible worlds’ is not meant to receive the ersatz pluriverse analysis.³¹

It is easy to see how the ersatz pluriverse analysis solves the problem of descriptive power. If the realistic pluriverse sentences are correctly specified, then they entail that there is a pair of worlds w_1 and w_2 and a pair of non-actual fundamental properties p_1 and p_2 such that p_1 plays nomic role r_1 in w_1 and p_2 plays nomic role r_2 in w_1 , and p_1 plays nomic role r_2 in w_2 and p_2 plays nomic role r_1 in w_2 . That is to say, realistic pluriverse sentences entail the existence of a pair of worlds and a pair of non-actual fundamental properties such that the worlds differ only by the properties swapping nomic roles.

IV. Fictionalism and the Incompleteness Problem

Timid modal fictionalism and the ersatz pluriverse analysis are akin in spirit: since both of them offer holistic accounts of the pluriverse, they are both able to distinguish possibilities in which non-actual individuals or fundamental properties swap roles without making special assumptions about the metaphysics of individuals and properties.

Timid modal fictionalism and the pluriverse theory look alike, but there is less to the likeness than meets the eye. First, the fictionalist takes advantage of the fact that much more is true in a fiction than what is explicitly said. The “worlds” which the

ersatzers represents by the open formulas at the end of each pluriverse sentence are completely specific. Second, the fictionalist treats possible world talk as fictional. All talk that incurs a commitment to a plurality of worlds is literally false, but true in the fiction, that is, it is true when it occurs within the scope of the story prefix. The fictionalist does not reinterpret possible world talk. 'There is a world with blue swans' does not mean 'according to the Lewis story, there is a world with blue swans'. The fictionalist might make as if to assert that there is a world with blue swans. But she is not prepared to genuinely assert it. The ersatzer, on the other hand, is prepared to reinterpret possible world talk and to genuinely assert reinterpreted possible world talk. It is true in the fullest sense that there is a world with blue swans as long as the latter receives the pluriverse analysis.³²

Sider thinks the first difference between the fictionalism and the pluriverse view makes trouble for fictionalism.³³ First, the fictionalist needs truth-in-fiction because her fiction does not provide a complete description of the pluriverse. The timid fictionalist has an advantage over the strong fictionalist because her primitive modal truths generate a great deal of the content of the fiction. But there are truths about the pluriverse that are not stateable in the modal language. So the question remains how the remaining content is generated.

Second, since the fiction contains no completeness principle, the fiction does not logically entail any (non-trivial) sentences of the form 'there is no world of type T' or 'every world is of type T'. Thus, it does not logically entail any sentences of the form 'every function defined on possible individuals of type T_1 is also of type T_2 ' or 'every

possible object of type T_1 bears relation R to some possible property of type T_2 '— sentences which have proven so important to modal metaphysics and semantics.

Does the timid modal fictionalist have the resources to dispel these charges? I think she does. The metaphysical implications of Lewis' theoretical pluriverse constraints plus content generated by the independent modal truths constitute the implicit content of the fiction. We clearly do not want anything like the completeness principle to be true in the fiction, for the fiction does not explicitly mention every possible. So, Sider is right that the fiction does not logically entail claims like 'every world is of type T '. But this is as it should be. The strict implication in the definition of the story prefix is metaphysical, not logical. Claims like 'no world overlaps any other world', 'every world is populated', and 'no two worlds are exactly alike' are true in the fiction only insofar as they follow metaphysically from the content generated by the independent modal truths together with the pluriverse constraints.

One might, of course, be concerned about the status of the fiction-generating constraints.³⁴ Are the constraints themselves part of the fiction they generate? It seems that they must be. Since the constraints incur a commitment to possible worlds, the fictionalist is prepared to say that they are literally false. But Lewis holds that they are literally true. So, it would seem that the fictionalist has no choice but to include them in the fiction. *Prima facie*, this is odd. We can say of a novel that it has five chapters or a happy ending, but novels do not ordinarily self-ascribe the property of having five chapters or a happy ending. Similarly, one might say, the Lewis fiction should not say about itself that reality consists of a plurality of universes or that no two worlds are exactly alike.

By way of reply, there is an important difference between superstructural claims like ‘this story has a happy ending’ or ‘this novel has five chapters’ and superstructural claims like ‘reality consists of a plurality of universes’ or ‘no two worlds are exactly alike’: the former may be literally true, the latter are false. Because the latter are false but represent the superstructure of reality by genuine realist lights, it is perfectly natural to treat them as fictional claims.

V. The Ersatz Pluriverse and the Cardinality Problem

Thus far we have been given little reason to choose between timid fictionalism and the ersatz pluriverse analysis. However, I will now argue that there is good reason to prefer timid fictionalism to the ersatz pluriverse analysis.

One familiar problem for the ersatz pluriverse theory is the cardinality problem:³⁵ if there is no upper bound to how many individuals may possibly exist, then for any cardinal number κ it is true in the modal language that there could exist κ objects. But any modal model has a domain of individuals with some cardinality. So, if there is no limit to how many individual may possibly exist, any model misrepresents the pluriverse.

Sider responds that every account of possible world talk runs into trouble along these lines. But that is an exaggeration. Fictionalism avoids exactly this sort of trouble by taking truth-in-fiction to be a metaphysical consequence of the theoretical constraints and the content generated by the independent modal truths. Like the genuine modal realist, the fictionalist does face the problem of reconstructing applications of possible world talk (for instance, propositions as functions from worlds to truth-values, or sets of worlds) if there are too many possible worlds or individuals to form a set. But unlike the

cardinality problem, the problem of reconstructing applications of possible world talk is not devastating. For it is not a conclusive reason against a theory if it cannot construe, say, propositions as sets of worlds. If, however, there are too many worlds or individuals to form a set, then the very notion of a realistic model is in jeopardy.

What is the chance that there is no upper bound to how many individuals may exist? Quite significant, it seems. For the following Principle of Recombination seems plausible:

Principle of Recombination: For any collection of objects from any number of universes, there is a single universe containing any number of duplicates of each, provided there is a spacetime large enough to hold them.³⁶

For any collection of objects from any number of universes, it is plausible that there is a single universe containing any number of duplicates of each. But if the principle of recombination is true, then there is no upper bound to how many individuals may exist. Since there is no upper bound to how many individuals may exist, there cannot be a realistic model that adequately represents the space of possible worlds.

One solution to the cardinality problem is to replace sets with what Prior and Fine call ‘quasi-classes’.³⁷ Quasi-classes are the possibilist counterpart of plural quantification. Instead of taking **W** to be a set of “worlds”, **D** to be a set of “individuals”, and **P** to be a set of “properties”, we might take **W** to be a plural quantifier over all “worlds”, **D** to be a plural quantifier over all “individuals”, and **P** to be a plural quantifier over all “properties”. The main problem with this approach is that in order to construct a

modal model we need functions that assign pairs of individuals and properties to each world, names to individuals, and intensions to properties. But such functions are defined on sets.

Moreover, as Fine points out, however one proposes to solve the cardinality problem, the general problem does not go away. For holistic ersatzism to succeed ‘there must be a one-one correspondence between the possible individuals and worlds of the pluriverse, on the one side, and the objects of the actual world on the other’.³⁸ But if there is no upper bound to how many individuals may possibly exist, there is no such one-one-correspondence.

VI. The Ersatz Pluriverse and the Incompleteness Problem

There is another challenge to the ersatz. According to Lewis, the pluriverse satisfies a number of postulates, for instance, the following:³⁹

- P1 Nothing is in anything except a world
- P2 Nothing is in two worlds
- P3 Whatever is a counterpart is in a world
- P4 Whatever has a counterpart is in a world
- P5 Nothing is a counterpart of anything else in its world
- P6 Anything in a world is a counterpart of itself
- P7 Some world contains all and only actual things
- P8 Something is actual

If Sider's pluriverse surrogate is to have the same descriptive powers as Lewis' pluriverse, it too must satisfy some such postulates. But it is not clear that it does. Take P1. The ersatzer might propose that all realistic pluriverse sentences logically entail that nothing is in anything except a world. It follows, not because P1 itself is a constituent of any realistic pluriverse sentence, but because P1 specifies a fact about realistic proxy pluriverses.

But this explanation won't do. For facts about the proxy pluriverses are supposed to be determined by truth in the modal language. If, for instance, 'necessarily, every individual actually exists' is true in the modal language, then every pluriverse sentence will entail that there are no non-actual individuals. If not, not.⁴⁰ Granted, just as there are pluriverse sentences that logically entail the existence of talking donkeys, so there are pluriverse sentences that logically entail Lewis' postulates. Except for P8, however, Lewis' postulates are not translatable into the modal language.⁴¹ So, not all the pluriverse sentences that respect the independent modal truths will logically entail Lewis' postulates.

This implication is detrimental to the ersatz pluriverse analysis, which was intended to help us do modal metaphysics and semantics by proxy. For modal metaphysics and semantics implicitly or explicitly rely on claims about the superstructure of logical space.

The ersatzer might reply that she has a right to stipulate that only pluriverse sentences that logically entail P1-P7 are proxy pluriverses. If, for example, a pluriverse sentence logically entails that there is a pair of worlds w_1 and w_2 and an individual x such that x is part of w_1 and part of w_2 , then the sentence logically entails the negation of the

postulate that nothing is part of two worlds.⁴² It is of course required that every pluriverse sentence be true in models that are faithful to the modal facts. But, the ersatzer might say, beyond this minimal requirement, she is in a sense free to stipulate whatever she wants.

However, I do not think the ersatzer has any right to stipulate that only modal models that logically entail P1-P7 are realistic. For how would she propose to explain the status of the postulates? The ersatzer cannot say that they follow, in some sense, from truths in the modal language; for they do not. Nor can she say that the realistic pluriverse sentences logically entail the postulates, on pain of circularity. If she wants to explain 'realistic' partially in terms of Lewis' postulates, she cannot also explain the status of the postulates in terms of the notion of a realistic model or pluriverse sentence. The status of the postulates must be explained without any appeal to the realistic models or pluriverse sentences.

Fictionalism is not in the same unfortunate situation. The fictionalist cannot offer a reductive account of modality without running into similar problems, but must take the content of the fiction to supervene in part on primitive modal facts. However, while truth in the modal language will generate much of the content of the fiction, the fictionalist can admit that the fiction says a great deal more than can be said in the modal language. The fiction standardly employed is counterpart theory, as Lewis constructed it. Anything that follows from counterpart theory follows from the fiction. If it follows from counterpart theory that no object is in two worlds, then it follows from the fiction that no object is in two worlds, and so forth. The truth of 'according to the Lewis story, nothing is in two

worlds' is not a truth grounded in any modal truth; it is a truth according to one kind of reductive story about modality.

There is admittedly still a question of which fiction to choose. Any admissible fiction must respect the independent modal truths. But beyond that, it is not clear that there is anything to make us choose among different possible worlds fictions. Instead of utilizing a fiction that asserts that no object is in two worlds, the fictionalist could utilize a fiction that denies that this is so.

But this is not necessarily a problem for the fictionalist.⁴³ She can simply admit that there are alternative admissible possible worlds fictions—all false, of course. All admissible fictions may be equally well suited for doing modal logic by proxy.⁴⁴ But some are better suited than others for certain kinds of modal metaphysics and semantics. Traditional philosophy of language, for example, presupposes a fiction that entails that objects can inhabit more than one world.

A similar response is not obviously available to the ersatzer. Like the fictionalist, the ersatzer assigns truth-conditions to sentences like 'there is a world in which a donkey talks' or 'there exist two worlds and two non-actual fundamental properties such that the worlds differ only by the properties swapping roles'. But unlike the fictionalist, the ersatzer takes such sentences to be true. It is true, on the ersatz pluriverse analysis, that there is a world in which a donkey talks. This is true because 'there is a world in which a donkey talks' is reinterpreted as the assertion that all realistic pluriverse sentences entail that there is a world in which a donkey talks. No problem here. But unless there is a single notion of what it is for a sentence or model to be realistic, sentences like 'there is a

non-actual world where I exist' or 'I have a person-counterpart who is a truck driver' will have no (absolute) truth-value.

I suppose the ersatzer could deny that either the content or the truth-value of the target sentences to be reduced is absolute. The target sentences might express propositions, or be true (false), only relative to a set of pluriverse constraints. But such tactics are not entirely happy. The ersatzer wants to partake of modal metaphysics and semantics in the fullest sense. But it is not clear that she can do so if she denies that there is a single class of isomorphic proxy pluriverses.

VII. The Ersatz Pluriverse and Cross-World Relations

There is a variation on the previous objection that cuts deeper. Consider the following sentence in the possibilist language:

- (4) There is an \underline{x} and a \underline{y} such that \underline{x} exists in @, and \underline{x} is the house I actually built, and \underline{y} exists in some non-actual world \underline{w} , and \underline{y} is a house that I (or my counterpart) built, and \underline{y} is taller than \underline{x} .

(4) is the sort of sentence that the realist takes to be true. So, (4) ought to follow from all realistic pluriverse sentences. But it is not clear that it does.⁴⁵ For (4) is not expressible in the modal language. So, truth in the modal language does not determine whether an otherwise realistic model in which (4) is true is realistic. We might, of course, enrich our modal language with the addition of an actuality operator. In the language of possible worlds, the actuality operator can be characterized as follows:⁴⁶

$A\phi$ is true at a world w iff ϕ is true at the actual world

However, (4) is not expressible in the enriched language either. The best we can do is:

$$(5) \quad \diamond \exists x \exists y (F_x \ \& \ AG_y \ \& \ T_{xy}),$$

where F means is a house I built, G means is the house I built, and T means is taller than.⁴⁷ In the possibilist language, (5) is true iff there is a world w and a pair of individuals x and y such that x is in w , and y is in w , and x is a house I built, and y is the house I actually built, and x is taller than y . But this is not equivalent to (4). (4) ascribes an inter-world relation, not an intra-world relation: it may be true if the house I actually built does not exist in w (in fact, on Sider's account, it is true). Since (4) is not expressible in the enriched language, truth in the enriched modal language does not determine whether an otherwise realistic model in which it is true is realistic.

How will the ersatzer respond? One thing she might do is insist that while (4) is not expressible in a modal language with an actuality operator, it is indeed expressible in what we might call modal English. In modal English, the relevant fact can be stated as follows:

$$(6) \quad \text{I could have built a house that is taller than the one I actually built}$$

A modal model in which (4) is true is realistic, the ersatzer might say, only if (6) is true. So, the problem of cross-world relations goes away if we replace the modal language with modal English.

This reply does indeed solve the problem of how to determine whether an otherwise realistic model in which (4) is true is realistic. However, it is not clear that (6) lacks commitment to mere possibilia. If, indeed, (6) ascribes the relation of being taller than, which seems quite plausible, then one of the relata of this relation is a mere possibilium. So, (6) incurs a commitment to mere possibilia. So, (6) is itself a target sentence to be reduced.

A second thing the ersatzer might do is to denounce the problem as a mirage. Once the pluriverse sentences are correctly specified, she might say, sentences like (4) will follow.⁴⁸ For cross-world relations are fully determined by what goes on in the worlds. Whether or not a possible individual \underline{x} stands in the relation of being taller than to another possible individual \underline{y} is entirely determined by the height of \underline{x} and the height of \underline{y} . Whether or not a possible individual \underline{x} stands in the relation of being further from New York than another possible individual \underline{y} is from Paris is entirely determined by the distances between New York and \underline{x} , and Paris and \underline{y} . And this is so even if \underline{x} and \underline{y} are possibilia existing in different worlds. So, to account for cross-world relations, the ersatzer might continue, we only need to specify what goes on in the individual worlds. It is a truth in the modal language that I could have built a house that is 15 feet tall, and it is also a truth in the modal language that I actually built a house that is 12 feet tall. So, realistic modal models will contain surrogates corresponding to my 12 feet tall house and a 15 feet tall house I could have built, and realistic pluriverse sentences will contain open

formulas or “world-conjuncts” stating that \underline{x} is in $@$, and \underline{x} instantiates the property of being the house I built, and \underline{x} instantiates the property of being 12 feet tall, and \underline{y} is in \underline{w}_1 , and \underline{y} instantiates the property of being a house I built, and \underline{y} instantiates the property of being 15 feet tall, ... Since pluriverse sentences with such conjuncts will entail (4), (4) is true.

This reply is forceful. But I think the ersatzter has no right to it. ‘ \underline{x} is taller than \underline{y} ’ is a metaphysical, but not a logical, consequence of ‘ \underline{x} is 12 feet tall, and \underline{y} is 15 feet tall’.⁴⁹ So, (4) follows metaphysically from all realistic pluriverse sentences, but it does not follow logically. Since a target sentence to be reduced is true iff it follows logically from all realistic pluriverse sentences, (4) is not true.

Further trouble: every realistic pluriverse sentence is complete. COMPLETENESS says that there are no worlds other than those denoted by $@$ and the variables \underline{w}_i , and no individuals or properties other than those noted by the Lagadonian constants and the variables \underline{x}_i , and \underline{p}_i . But if the existence of cross-world relations follows from the specification of what goes on in the worlds, then so do properties like that of being smaller than a house one of my counterparts could have built. So, there are properties other than those denoted by the variables \underline{p}_i . So, the realistic pluriverse sentences are not complete after all.

Fictionalism does not run into this kind of trouble. The fictionalist takes target sentences to be true in the fiction if they follow metaphysically from the pluriverse constraints and the content generated by the independent modal truths. Since (4) follows metaphysically from the content generated by the independent modal truths, (4) is true in the fiction.

VIII. Concluding Remarks

Because localistic ersatzism offers a world-for-world reduction of possible world talk, it has trouble distinguishing certain metaphysical possibilities that it ought to distinguish. This suggests shunning localistic reductions. There are two sorts of holistic “reductionist” theories on the market both of which seem to steer clear of this problem: the ersatz pluriverse analysis and modal fictionalism. The pluriverse theory proposes to analyze possible world talk in terms of a single description of the totality of worlds (or in fact, many equivalent ones). The description itself is literally false. Nonetheless, the sentences to be reduced are reinterpreted as the assertion that they follow from the description, and this sort of claim may well be true. Fictionalism comes in two varieties: strong and timid. Strong fictionalism analyzes modal claims in terms of truth-in-fiction. Sentences like ‘there is a world with blue swans’, though fictionally true, are literally false. Timid fictionalism does not propose to analyze modal claims in terms of truth-in-fiction; instead, it offers an alternative way of doing modal metaphysics and semantics by proxy.

Whereas strong fictionalism is problematic in various ways, timid fictionalism is a serious competitor to the ersatz pluriverse analysis; in fact, if the above is right, timid fictionalism does better than the pluriverse theory. The pluriverse theory and timid fictionalism are very similar. But there are differences. For instance: the pluriverse view offers a complete description of every corner of every possibility; timid modal fictionalism offers a fiction that contains a batch of principles about the superstructure of the pluriverse and content generated by the independent modal truths.

This latter difference gives us reason to prefer timid fictionalism to the pluriverse view. For one thing, the fictionalist need not answer the question of whether there is an upper bound to how many individuals may possibly exist. If there is an upper bound, then the fiction entails that there is an exact number of possible individuals. If not, not. The pluriverse theory, on the other hand, must describe all possible worlds and individuals. But this is possible only if there is an upper bound to how many individuals may possibly exist.

For another, fictionalism holds that what is true in the fiction follows metaphysically from the content generated by the independent modal truths and the theoretical constraints. Sentences that ascribe cross-world relations (e.g., ‘I could have had a son that is taller than the daughter I actually have’) follow metaphysically from sentences describing what goes on in the individual worlds. So, the fictionalist can account for the fictional truth of such sentences. Since the ersatzer holds that the target sentences are true iff they follow logically from all pluriverse sentences, she cannot account for their truth.

There are other differences between timid modal fictionalism and the pluriverse theory. Timid modal fictionalism offers an alternative to possible world talk. The pluriverse theory offers a reduction.

But reductionism makes trouble. For not all claims about the superstructure of the space of possibilia are stateable in the language of possibility and necessity. For instance, ‘no two worlds overlap’ is not. This is a problem for the pluriverse view, because it claims that any target sentence of the reduction is true when reinterpreted as the assertion that it follows from all realistic pluriverse sentences. Since there are realistic pluriverse

sentences that do not entail that no two worlds overlap, it is hardly the case that the target sentences of the reduction follow from all realistic pluriverse sentences, or that we can participate in the practices that utilize possible world talk in the fullest sense.

¹ On the Plurality of Worlds, (Oxford: Basil Blackwell, 1986), p. 136.

² David Armstrong, A Combinatorial Theory of Possibility (Cambridge University Press, Cambridge) and Gideon Rosen, “Modal Fictionalism”, Mind 99 (1990), 327-54 offer different kinds of fictionalism. I shall here focus on Rosen’s proposal.

³ More carefully: talk that incurs a commitment to fictional entities or merely possible individuals is untrue.

⁴ Alan McMichael, “A Problem For Actualism About Possible Worlds”, Philosophical Review 92 (1983), 49-66, Lewis, On the Plurality of Worlds, Chap. 3, Phillip Bricker, “Reducing Possible Worlds to Language”, Philosophical Studies 52 (1987), 331-55, pp. 349-353, Allen Hazen, “Actualism Again”, Philosophical Studies 84 (1996), 155-181, and Daniel Nolan, Topics in the Philosophy of Possible Worlds (New York: Routledge, 2002), Ch. 5.

⁵ Arthur N. Prior and Kit Fine, Worlds, Times and Selves (London: Duckworth, 1977), p. 148, Nolan, Topics in the Philosophy of Possible Worlds, Ch. 5 and Sider, “The Ersatz Pluriverse”, Journal of Philosophy 99 (2002), 279-315.

⁶ See e.g. Bob Hale, “Modal Fictionalism: A Simple Dilemma”, Analysis 55 (1995), 63-67, and Nolan, “Three Problems for ‘Strong’ Modal Fictionalism”, Philosophical Studies 87 (1997), 259-275.

⁷ On the Plurality of Worlds, p. 141.

⁸ On the Plurality of Worlds, p. 137.

⁹ On the Plurality of Worlds, p. 141.

¹⁰ For example, Robert Stalnaker, “Possible Worlds”, Nous 10 (1976), 65-75, Alvin Plantinga, “Actualism and Possible Worlds”, Theoria 42 (1976), 139-60. See also Bernard Linsky and Edward Zalta, “In Defense of the Simplest Quantified Modal Logic”, Philosophical Perspectives 8 (1994), 431-458. Brian Skyrms defends a version of linguistic ersatzism in “Possible Worlds, Physics and Metaphysics”, Philosophical Studies 30 (1976), 323-32.

¹¹ On the Plurality of Worlds, p. 168.

¹² On the Plurality of Worlds, p. 168.

¹³ “The Ersatz Pluriverse”, §1

¹⁴ Lewis, On the Plurality of Worlds, pp. 170-1. For other charges, see e.g. Karen Bennett, “Proxy ‘Actualism’ ”, forthcoming in Philosophical Studies.

¹⁵ “Modal Fictionalism”

¹⁶ By ‘talk’ I mean ‘talk that incurs a commitment to fictional entities or merely possible individuals’.

¹⁷ To protect against the Rosen/Brock objection, the letter of the 1968 counterpart-theoretic translation scheme is assumed. See Harold Noonan, “In Defense of the Letter of Fictionalism”, Analysis 54 (1994), 133-39. For the 1968 translation scheme, see Lewis, “Counterpart Theory and Quantified Modal Logic”, The Journal of Philosophy 65 (1968), 113-126, reprinted in Lewis, Philosophical Papers Vol 1 (Oxford: Oxford University Press, 1983). For the Rosen/Brock objection, see Rosen, “A Problem for Fictionalism About Possible Worlds”, Analysis 53 (1993), 71-81, and Stuart Brock, “Modal Fictionalism: A Response to Rosen”, Mind 102 (1993), 147-50. For responses to

other attempts at avoiding the objection, see Nolan and John O’Leary-Hawthorne, “Reflexive Fictionalisms”, Analysis 56 (1996), 26-32.

¹⁸ “Modal Fictionalism”, p. 335.

¹⁹ A point of clarification: every truth in the modal language has a translation into the language of counterpart theory [but see Michael Fara and Timothy Williamson, “Counterparts and Actuality”, Mind 114 (2005)]. But, as Lewis points out, the reverse translation, from sentences of counterpart theory to sentence in the modal language, can be done only ‘by finite search whenever it can be done at all. .. not every sentence of counterpart theory is the translation of a modal sentence, or even an equivalent of the translation of a modal sentence’ (“Counterpart Theory and Quantified Modal Logic”, p. 31).

²⁰ “Modal Fictionalism”, pp. 328-9.

²¹ See in particular Bob Hale, “Modal Fictionalism: A Simple Dilemma”, and Daniel Nolan, “Three Problems for ‘Strong’ Modal Fictionalism”. For an excellent summary of the main charges against strong modal fictionalism, see Nolan “Modal Fictionalism” in Edward N. Zalta (ed.) The Stanford Encyclopedia of Philosophy, <http://plato.stanford.edu/archives/sum2002/entries/fitch-paradox/>. See also the last section of Sider’s “The Ersatz Pluriverse” and Josh Dever, “Modal Fictionalism and Compositionality”, Philosophical Studies 114 (2003), 223-251.

²² “Modal Fictionalism”, p. 354.

²³ See John Divers, “A Modal Fictionalist Result”, Nous 33 (1999), 317-46.

²⁴ A. N. Prior and K. Fine, Worlds, Times and Selves, p. 148, D. Nolan, Topics in the Philosophy of Possible Worlds, Ch. 5, and Sider, “The Ersatz Pluriverse”.

²⁵ See Sider, “The Ersatz Pluriverse”, note 27.

²⁶ Since properties are names rather than predicates the languages must also include an instantiation predicate.

²⁷ “The Ersatz Pluriverse”, § II

²⁸ The elements of modal models are not to be taken with ontological seriousness, hence the shudder quotes.

²⁹ This is Sider’s initial characterization in §III. In §IIIC he adds a qualification. True de dicto sentences in the modal language determine which modal models are realistic. In §IIIF he gives a counterpart-theoretic account of de re modal sentences. Where **M** is any modal model and **C** is a counterpart relation for **M**, $\langle \mathbf{M}, \mathbf{C} \rangle$ must be realistic. To achieve this Sider defines a function, c-determination, which when applied to a realistic modal model **M** produces the appropriate counterpart relation, **C**, over the individuals of **M**. Where \underline{w}_1 and \underline{w}_2 are open clauses that completely specify the instantiation of properties within worlds \underline{w}_1 and \underline{w}_2 , \underline{x}_1 and \underline{x}_2 are variables corresponding to individuals \underline{x}_1 and \underline{x}_2 , $\underline{\alpha}_1$ is a list of all variables other than \underline{x}_2 used for \underline{w}_2 , and $\underline{\beta}_1$ is a list of all variables other than \underline{x}_2 used for \underline{w}_2 , c-determination(**M**) holds between \underline{x}_1 and \underline{x}_2 iff the following is (actually) true in the modal language: necessarily, for all $\underline{x}_1, \underline{\alpha}_1, \dots$, and for all distinct $\underline{x}_2, \underline{\beta}_1, \dots$, if \underline{w}_1 and \underline{w}_2 , then \underline{x}_1 and \underline{x}_2 are c-similar.

³⁰ This claim cannot be taken fully literally. For the actual world cannot be taken to encode advanced modal truths such as ‘it is not the case that there is a plurality of worlds’ or ‘it is not the case that there is a world with blue swans’. For discussion of this general problem, see Divers, “A Genuine Realist Theory of Advanced Modalising”, *Mind* 108 (1999), 217-39, “A Modal Fictionalist Result”, and Divers and Jason Hagen, “The Modal

Fictionalist Predicament”, forthcoming in F. MacBride (ed.), Identity and Modality (Oxford: Clarendon Press).

³¹ “The Ersatz Pluriverse”, § II.

³² Sider, “the Ersatz Pluriverse”, §III.H.

³³ “The Ersatz Pluriverse”, §V. Sider’s immediate target is strong modal fictionalism.

³⁴ Fine takes this problem to be devastating to fictionalism. See Fine, “The Problem of Possibilia”, in Michael Loux and Dean Zimmerman (eds.), Oxford Handbook of Metaphysics (Oxford: Oxford University Press, 2003), p. 177.

³⁵ See e.g. Prior and Fine, Worlds, Times and Selves, p. 148, Sider, “the Ersatz Pluriverse”, § IV.A, and Fine, “The Problem of Possibilia”, p. 169.

³⁶ This is Rosen’s principle (6e). See “Modal Fictionalism”, p. 333.

³⁷ Worlds, Times and Selves, p. 148, Sider, §IV.A, and Fine, “The Problem of Possibilia”, note 14.

³⁸ “The Problem of Possibilia”, p. 169.

³⁹ “Counterpart Theory and Quantified Modal Logic”, p. 27.

⁴⁰ Sider, “The Ersatz Pluriverse”, §V.

⁴¹ “Counterpart Theory and Quantified Modal Logic”, p. 31.

⁴² Sider simply stipulates that all of his modal models satisfy P2 and P7, that is, no two distinct “worlds” have overlapping domains, and the actual “world” is a member of every model. Moreover, he argues that the proxy pluriverses should (purport to) represent a counterpart relation—defined in terms of a primitive notion of c-similarity—holding between individuals from different worlds. See note 29 above. To achieve this, he says, the possibilist language and the modal models must be enriched.

⁴³ See Rosen, “Modal Fictionalism”, p. 332.

⁴⁴ However, see Michael Fara and Timothy Williamson, “Counterparts and Actuality”.

⁴⁵ For further discussion of this sort of problem see Hazen, “Expressive Completeness in Modal Languages”, Journal of Philosophical Logic 5 (1976), 25-46.

⁴⁶ See e.g. Fara and Williamson, “Counterparts and Actuality”.

⁴⁷ For simplicity’s sake, I treat the descriptions as predicates. Nothing crucial hangs on this.

⁴⁸ Sider (p.c.)

⁴⁹ ‘x is 12 feet tall, and y is 15 feet tall, but it is not the case that y is taller than x’ and ‘x is 12 feet tall, and y is 15 feet tall, and there are no relations’ are not logical contradictions.