

Is everything a world?*

Josh Parsons

September 5, 2006

Abstract

This paper discusses “inclusionism” in the context of David Lewis’s modal realism (and in the context of parasitic accounts of modality such as John Divers’s agnosticism about possible worlds). This is the doctrine that everything is a world. I argue that this doctrine would be beneficial to Divers-style agnosticism; that it suggests a reconfiguration of the concept of actuality in modal realism; and finally that it suffers from an as-yet unsolved difficulty, the problem of the unmarried husbands. This problem also shows that Stephen Yablo’s analysis of “intrinsic” is inadequate.

1 Isolationism and inclusionism

In his paper “Intrinsicness”, Stephen Yablo describes a revised version of David Lewis’s modal realism, incorporating the doctrine he calls *inclusionism*: that “Some worlds contain others as proper parts” (Yablo 1999, p. 483). Which worlds might those be? Yablo’s inclusionist says that every world that properly contains anything has a world as a proper part; that is, every part of a world is a world, every mereological fusion of worlds is a world, you are a world, I am a world, for all intents and purposes, everything is a world.¹ This view has several benefits.

1) Yablo is particularly interested in its surprising benefit of providing an analysis of “intrinsic”. According to Yablo, G is extrinsic iff “whether a thing is or

*Thanks to Ross Cameron, Daniel Nolan, John Divers, Kit Fine, Agustín Rayo, Steve Yablo, and to participants in the Arché modality seminar, University of St Andrews.

is not G can be changed by adding a part to its containing world". (Yablo 1999, p. 482) If this is adequate and non-circular, then Yablo has found the holy grail among analyses of intrinsic — an analysis in terms of such neutral machinery as logic, mereology, and modality.

2) Loosening the requirements of what it takes to be a world removes some of the unlovely consequences of modal realism. In Lewis's modal realism, worlds are maximal fusions of worldmates, and any two individuals are worldmates iff they are spatiotemporally related (or "analogically spatiotemporally related" — more on which in a moment). It follows from this that island universes are impossible: it could not have been that there are two spatio-temporally isolated universes. It also follows that there cannot be spirits, numbers, pure sets, or other things supposedly outwith spacetime, and that there cannot be worlds that are not spatio-temporal. Lewis's reply to these problems (and others like them) is a combination of bullet-biting (which, he admits, is uncomfortable) and the use of the hedged formulation "analogically spatiotemporally related" — the idea being that such things as spirits must stand in *some* natural relation to their worldmates.² (Lewis 1986, pp. 71–76)

Let us call Lewis's view that no worlds overlap *isolationism*. Once this is abandoned, the problems disappear. A fusion of any two spatiotemporally isolated worlds (Lewis worlds, let's call them) is a world in which there are island universes. So it is possible that there be island universes.³ Any population of spirits (even outside space or time) is a world, so it is possible that there be spirits, and that there be non-spatiotemporal things.

3) John Divers (2004) has called attention to a modification of error theory about possible worlds that can benefit from inclusionism. The agnostic about merely possible worlds accepts Lewis's analysis of modality, but professes *not to know* whether there are non-actual Lewis worlds — whether there are any worlds spatio-temporally isolated from this one. The agnostic may be satisfied that there are actually no blue swans, but reserves judgement over whether there might be blue swans — though she is sure that there are no blue swans in this spacetime, she reserves judgement over whether there are blue swans in other spacetimes. Agnostics about merely possible worlds are not agnostic about all modal claims, however. This is because they have normal views about what's going on in the actual world (so it is possible that there are white swans) and they have normal views about logic and analyticity that restrict what is true of other spacetimes, if there are any (so it is impossible that there be non-red red things, or male vixens).

Relaxing constraints on modal realism helps the agnostic. For example, if we

allow that objects can have proper counterparts in the same Lewis world as them, then the agnostic can get to believe some *de re* possibility claims. Suppose that my twin is a successful plumber, and is sufficiently relevantly similar to me so that he counts as one of my counterparts. Then even the agnostic can agree that I might have been a plumber.

The programme in which Divers is engaged consists in trying to minimize the agnostic's assertion deficit — to shrink the domain of modal statements about which the agnostic must remain silent — using techniques like this. Inclusionism would be greatly useful here. The isolationist agnostic remains silent about whether there could have been just one ruby and nothing else. But an inclusionist agnostic need only consider whether there is any actual ruby, construe this ruby as a world, and ask “is it true at that world that there is just one ruby, and nothing else”?

Agnosticism about possible worlds is an example of a parasitic anti-realism about possible worlds — an anti-realism that attempts to obtain the benefits of Lewis's modal realism without endorsing it, and without articulating another theory to take its place. Another famous example is Rosen's (1990) modal fictionalism. Though fictionalism has its problems, it does not have the problem of the assertion deficit, so the motivation for the agnostic to take up inclusionism does not apply to it. However, all parasitic anti-realists should be interested in the second motivation listed above, having to do with island universes etc., since they inherit those problems from modal realism. In what follows, I will speak as if I were addressing modal realists; but it should be remembered that there many modal anti-realists whose fortunes are bound to the fate of Lewis's theory.

2 Lewis against overlap

If inclusionism is so great, why didn't Lewis endorse it? One might suspect that the answer lies in the section of his book entitled “Against overlap” (Lewis 1986, pp. 198–209) — as Yablo says, “What part of ‘against’ don't you understand?” But it does not.

Lewis's objections to overlap are objections to objects having different intrinsic properties in different worlds. But just because two worlds overlap doesn't mean that what they overlap on has different intrinsic properties in each world. Indeed, the whole force of Lewis's argument is that if two worlds overlap, then

what they overlap on had better have the same intrinsic properties in each world. Overlap is not bad in itself, but it can't do the work of explaining "representation *de re*" — of explaining what it is for a world to represent *of me* that I might have been taller, for example.⁴ I have my actual height intrinsically, and if I am literally in two worlds, then I am the same height in both.

But of course, the applications for inclusionism suggested above do not involve using overlap between worlds as an account of representation *de re*. The idea is to keep Lewis's counterpart theoretic account, and relax only his views about what gets to be called a world. I might have been Φ iff there is some counterpart of me who is Φ . So it is not necessary for my possibly being Φ that I literally be Φ in some other world; it is sufficient, but only because I am a counterpart of myself.

Lewis's criticisms of overlap are no reason to reject inclusionism (and he did not intend them as such). Inclusionist reconstructions of modal realism or Diversist-style agnosticism face whatever objections counterpart theory faces in the context of those two broad modal theories, but not, so far as we've seen, any additional problems.

I now want to discuss some more serious problems for inclusionism. I introduce them in order of increasing difficulty. There is the argument that, once we admit overlap, surely it is by overlap that worlds represent *de re* (section 3); a problem about deciding which is the actual world (section 4); and finally, an absurd consequence deduced from inclusionist counterpart theory (section 5), which doubles as a straight counterexample to Yablo's analysis of "intrinsic".

3 If there's overlap, then it is how worlds represent *de re*

Plausibly, "witches" refers to unfortunate women (and some men) who were regarded as having supernatural powers and persecuted as a result. But, plausibly again, if there are people with supernatural powers and in league with the devil, "witches" refers to them, and does not refer to those who were persecuted as such (unless by a happy coincidence, these are one and the same). It might be thought that "is an other-worldly counterpart of" is like "is a witch", that "is identical to" is like "has supernatural powers" and "is relevantly similar to" is like "was persecuted for witchcraft". Just as, if there are people with supernatural powers, then

they and only they are the witches, so, if there is overlap, then a world can only represent *de re* concerning something by having that thing as a part.

It would be bad news for inclusionism if this conditional were true. But I don't see any good reason for supposing that it is true. Let me unmask a bad reason. Consider the concessive counterpart theorist, who still hankers after trans-world identity, and still feels his heart stir with almost forgotten enthusiasm when he reads again Kripke's (1972, p. 45) "Humphrey" argument. He is convinced, reluctantly, that Lewis's overall view of modality is the best package on offer, and that Kripke's objections are not decisive. But if convinced that there was overlap between possible worlds, he'd revert to his former Kripkean ways.

The concessive counterpart theorist, though, needn't accept the conditional: Kripke was never in favour of genuine overlap between the thing represented and the world that represents. As Lewis (1986, p. 196) points out, Kripke's view is that whatever worlds are, they are not made of the same sort of stuff as flesh and blood politicians, so he wasn't saying that a world that represents Humphrey should have Humphrey as a part. Perhaps Kripke was saying that worlds should overlap on whatever bits of them represent the same thing; but that's different from saying that a world can only represent something by having that thing as a part.

4 Which world is actual?

If everything is a world, then which world is actual? Lewis's view was that "actual" is an indexical (Lewis 1986, pp. 92–96): the actual world is *this* world, the one *we* are a part of. But if I'm a world, and you're a world, and many fusions of me and my surroundings are worlds, which is *this* one? There's no one world we are a part of. Are different worlds actual depending on whom I'm speaking to?

No answers to these questions seem especially attractive: I'll show this by surveying some options for what the inclusionist might say the actual world is, and some quick problems for them.

Option 1: Me. In my mouth "the actual world" refers to me, in your mouth it refers to you, etc.

Problems: It would be helpful to have some criteria for what would count as a good choice of the actual world. Here are two: it should turn out that a) in the

actual world, there are white swans; and that b) it is not the case that, in the actual world, there are blue swans. Option 1 fails the first of these criteria, for there are no white swans in me.

Option 2: The Lewis world I'm in. On this view, “the actual world” always refers to what the isolationist thinks it refers to, but now it's “actual” rather than “world” that builds in a restriction to maximal spatiotemporally connected objects.

Problems: a) This doesn't seem pretheoretically plausible as an analysis of “actual” — what does actuality have to do with spacetime? But then, we're hardly doing worse than Lewis's original view here. Say what you will about the indexical analysis of actuality, pre-theoretic plausibility is hardly its greatest selling point. b) We're left in the ugly position of there being some worlds that cannot be actual, and there being some speakers not in any actual world. What if a non-spatiotemporal spirit thinks to itself “the actual world contains spirits”? What it would thereby think would be false, it seems. Suppose there are island universes, and I say “the actual world contains island universes”. False again.

Maybe what the unattractiveness of these options shows that is we should not be fussy about there being a unique actual world. Why not say that there are many actual worlds? This seems very much in the spirit of inclusionism.

Option 3: Any world I'm in. “An actual world” in x 's mouth, applies to anything that has x as a part.

Problem: we now need to rethink the two criteria I described under option 1, for if there are many actual worlds, “the actual world” is an improper definite description. There are two obvious ways to do this. First, we might replace the definite description with a universal quantifier, so that our two criteria become: a) “in every actual world, there are white swans” and b) “it is not the case that, in every actual world, there are blue swans”. Second, we might replace it with an existential quantifier, so that the criteria become c) “in some actual world, there are white swans” and d) “it is not the case that, in some actual world, there are blue swans”.

Of these four, (a) and (d) simply fail. (a) fails because not all the worlds I am in contain white swans (the world consisting of just me, for example, contains no white swans). (d) fails because some of the worlds I am in contain blue swans (the worlds in question are worlds containing island universes — fusions of the actual Lewis world with worlds containing blue swans). (b) and (c) come out true, but they are hopeless as criteria for the meaning of “actual”, as they are so weak that

they come out true even if the world “actual” is removed from them.

Option 4: Any part of the Lewis world I’m in. “An actual world” in x ’s mouth, applies to anything that is a part of the Lewis world that x is in.

Problem: this appears to have all the vices of option 2, without the virtue of providing a unique actual world.

Perhaps there are other options with fewer problems, and perhaps there are ways of working around the problems described above. The options I have canvassed are all ways of adapting Lewis’s indexical theory of actuality to inclusionism — other options include abandoning the indexical theory for the absolute theory of actuality, as is suggested by Bricker (2001). That would have the usual problems of absolute actuality in the context of modal realism. (Lewis 1986, p. 93) I think that it would be better to be more radical, to dissolve rather than to solve the problems. Let us ask “what, in the context of modal realism, is the actual world for?” Then ask, “can the inclusionist find something to play that role?” If the answer is yes, then there’s no problem (but it might be that calling that something “the actual world” is very misleading — which gives the appearance of problems such as those above).

There are two important features of the actual world role we should be guided by. 1) Which thing counts as the actual world is contextually determined. 2) The actual world supplies the domain of quantification for actualist quantifiers not in a modal context. That is, when, in an ordinary context, someone says “There are no blue swans”, what they say is true, because their quantifier is restricted to the actual world and its contents.⁵

It should come as no surprise that quantifiers are, in ordinary usage, restricted to a contextually determined domain. When, in an ordinary context, someone says “There’s no beer” what they say is true because their quantifier is restricted to what’s in the fridge. Why suppose that the restriction involved in the role of “the actual world” is anything more than a special case of that? I suggest that for the inclusionist modal realist, “the actual world” is no more than a misleading synonym for “the contextually relevant domain”.⁶

If we do this, we can dissolve the problems given above. The question “If everything is a world, then which world is actual?” becomes the question “Which domain is contextually relevant?” — to which the answer is “Tell me more about the context.” In some contexts it turns out that “There are no white swans” is true; but this is no problem about modality. Such a context might occur in a discussion

between birdwatchers on an Australian lake (many lakes and wetlands in Australia support populations both of native black swans, and of introduced white swans):

“Look: swans!”

“Are there any white swans?”

“There are no white swans.”

The final sentence of this exchange could well be true — much like “There’s no beer” it’s contextually restricted to what’s on the lake.

In some contexts it turns out that “There are blue swans” is true. Again, this is no problem. When the modal realist is expounding modal realism, they say things like this — and if modal realism is right, what they say is true. Even the uninitiated, I think, can mandate interpretation of their quantifiers as absolutely unrestricted.⁷ So when a non-philosopher says “There are *absolutely* no blue swans” (and makes the right moves elsewhere in conversation), the modal realist should count them as speaking falsely. No problem there either. Modal realism is, after all, an ontologically revisionary view.

5 The problem of the unmarried husbands

Let us write Hx for “ x is a husband” and Mxy for “ x is married to y ”. Consider the following, obviously false, sentence: “It is possible that there be a husband who is not married to anyone”. In quantified modal logic, it can be written thus:

$$\diamond(\exists x)(Hx \wedge \neg(\exists y)(Mxy))$$

And so its translation into counterpart theory is:

$$(\exists w)(w \text{ is a world} \wedge (\exists x)(x \text{ is in } w \wedge Hx \wedge \neg(\exists y)(y \text{ is in } w \wedge Mxy)))$$

But this is true, according to inclusionism! Consider the world w , overlapping on our Lewis world, that consists just of Prince Philip. The inclusionist believes that there is such a world. w is a world in which someone is a husband, but not married to anyone. For, Prince Philip is in w , and Prince Philip is a husband. But since Queen Elizabeth is not in w , and she is the only person Philip is married too, there is no-one in w to whom Philip is married.

The trouble with “is a husband” is that it is an atomic predicate which expresses an extrinsic property (henceforth, for brevity, I will speak of “extrinsic

predicates”, meaning those that express extrinsic properties). This is a fatal blow to Yablo’s hopes of analysing “intrinsic”. Yablo’s analysis hinges on the idea that properties such as *being a husband* are extrinsic because whether a part of a world counts as a husband in that world depends on what else is in that world. But we have just seen that that is not the case, at least if we stick to Lewis’s formulation of counterpart theory. Whether a part of a world counts as a husband in that world depends only on whether that thing is a husband simpliciter.

Let us call this the problem of the unmarried husbands.⁸ It may seem obvious how to reply: of course, Philip shouldn’t count as a husband in w . But that means revising or abandoning counterpart theory. I can think of two ways of doing this, and neither is attractive.

5.1 Revising the translation scheme

You may be surprised to find that it is sufficient that Philip be a husband and in w for w to be husband infested. For that matter, you may be surprised to find that it is sufficient that Philip be human and in w , for w to be human infested. Surely what should matter is whether Philip is a human-in- w , and it is an essentialist speculation to suppose that if Philip is actually human, then he is human-in every w !

If you are surprised, you are no counterpart theorist. Counterpart theory gives us an analysis of what it is to be essentially human: Philip is essentially human iff all his counterparts are. So no objectionable essentialism follows from the fact that Philip makes every world he’s in husband infested. How come then, you may ask, no counterparts were mentioned in the translation of the husband sentence? Because they weren’t needed: the husband sentence is *de dicto*, not *de re*; it is about what kind of world might be husband infested, not about who might or might not have been a husband. In any case, all I have done is apply Lewis’s (1968) translation scheme; if you doubt that I have done that, don’t take my word for it — check it yourself.

So, if you want to rewrite the translation, you want to revise counterpart theory. There’s no harm in that: after all, we’re in the game of revising modal realism. But I don’t know of any revision that would get us what we want, and still do the work counterpart theory is supposed to do. For example, it won’t do to leave predicates in a world-indexed state, producing something like this:

$(\exists w)(w \text{ is a world} \wedge (\exists x)(x \text{ is in } w \wedge [Hx]^w \wedge \neg(\exists y)(y \text{ is in } w \wedge [Mxy]^w)))$

Without some gloss on the world-indexing notation, some explanation of how it modifies the sentence it applies to, this is just meaningless logical gobbledygook. It would be circular to say that $[Hx]^w$ means “ x is H in w ” — that’s the very notion of representation *de re* that counterpart theory is supposed to explain and give the metaphysics of.⁹¹⁰

Lewis gives us a rule for eliminating the world index from around an atomic sentence; it is part of what is causing the trouble. This is his rule:

Replace $\ulcorner [\Phi]^\beta \urcorner$ with $\ulcorner \Phi \urcorner$, if $\ulcorner \Phi \urcorner$ is atomic.

If you are tempted by the thought of leaving the world indices in place, what you should really do is give a replacement for this rule. Here is an example of such a replacement rule:

Replace $\ulcorner [\Phi\alpha_1\dots\alpha_n]^\beta \urcorner$ with

$\ulcorner (\exists\beta_1)(\exists\gamma_1\dots\gamma_n)(\beta_1 \text{ is a Lewis world} \wedge \beta_1 \text{ is an intrinsic duplicate of } \beta \wedge$
 $\gamma_1 \text{ is in } \beta_1 \wedge \dots \wedge \gamma_n \text{ is in } \beta_1 \wedge$
 $\gamma_1 \text{ is a counterpart of } \alpha_1 \wedge \dots \wedge \gamma_n \text{ is a counterpart of } \alpha_n \wedge$
 $\Phi\gamma_1\dots\gamma_n \urcorner$

if $\ulcorner \Phi\alpha_1\dots\alpha_n \urcorner$ is atomic.

The general idea here is that to find out whether Philip is a husband in some world w we ask, would he be a husband in a Lewis-world-duplicate of w — a Lewis world which is, in intrinsic respects, just like w . We can’t require that it be like w in extrinsic respects, because being a Lewis world is an extrinsic respect, and we want this rule to help us where w is not a Lewis world. Where w is a part of a Lewis world w' , but not a duplicate of w' (as in the case of Philip), the duplicate worlds will be disjoint from w — this is why counterparts are needed.

This rule is designed to track Yablo’s intuitions about what should be the case in which non-Lewis worlds (and, for that matter, my intuitions as they were before I realised that there was a problem). It delivers the result that Philip is not a husband in the world which is Philip himself, for there is nothing which is a Lewis world, a duplicate of Philip, and a husband (presuming that marriage is only possible between persons in the same space-time).

But this rule removes all the of the benefits of inclusionism. It will not help us analyse “intrinsic”, because it appeals to the notion of intrinsic duplication. It will

not help with the possibility of island universes, because a pair of island universes has no Lewis-world-duplicate; so it follows that it is impossible that there be a pair of island universes. It will not help the agnostic, because in all cases where w is not the actual Lewis world, the agnostic does not know whether w has a Lewis-world-duplicate.

5.2 Using the scheme differently

Suppose we stick with Lewis's translation. Maybe the mistake is in the formulation of the husband sentence in modal logic. Modal sentences need to be properly massaged before we apply Lewis's translation scheme to them. To use Russell's theory of definite descriptions with Lewis's translation scheme, for example, you must apply Russell's analysis before Lewis's. (Lewis 1968, pp. 32–33) Otherwise “the cleverest logician” ends up picking out the cleverest possible logician. So Lewis's translation works only on an already regimented language. Perhaps part of the regimentation should be to eliminate all extrinsic atomic predicates, replacing them with explicitly quantified forms.

Unfortunately, extrinsic predicates are not much like definite descriptions. Definite descriptions are syntactically distinctive constructions, and extrinsic predicates are not; and there is a syntactic rule — Russell's rule — for eliminating them, which there is not in the case of extrinsic predicates. We might be able to eliminate predicates like “is a husband” on an ad hoc basis, replacing it with “is a man married to someone” but that's only because I chose an easy case.

“Is a husband” transparently conceals a quantifier: anyone who thought that there could be a husband who didn't coexist with someone is, it seems, perverting the meaning of “is a husband”. Not every extrinsic predicate is so obvious. Take, for example: “is heavy”. This *is* extrinsic, though not transparently so: it took Newton to discover this. Let us write Hx for “ x is heavy”, and Mxy for “ x is gravitationally attracted to y ”. Using the argument above, we can see that the inclusionist seems to be committed to the possibility of heavy objects that are not gravitationally attracted to anything.

This proposal is especially bad in the context of Yablo's analysis of “intrinsic”. The whole point of that analysis is to explain what it is for a property to be extrinsic. If to be extrinsic is to be expressed by a predicate analytically connected with a certain kind of quantified expression, then there would be no need for such analysis.

6 Conclusion

Inclusionism is an attractive revision to modal realism, and to some related views, such as agnosticism about other possible worlds. It prompts a stimulating re-think of the concept of actuality. But it suffers from a serious and unresolved problem — the problem of the unmarried husbands.

Those who are already committed to inclusionism (such as Yablo) urgently need a solution. Many who are not inclusionists (such as Divers) would benefit from one. I would like to think that there is a solution out there. As I've said, I don't know what it is, but I have two suggestions. First, modifications to Lewis's translation scheme from modal languages to counterpart theory might help; but we must be careful not to presuppose modal resources in doing so. Second, Yablo's analysis of "intrinsic" is too good to be true; so a solution will probably render it inadequate or circular. This suggests that the correct solution might trade on a distinction between intrinsic and extrinsic properties.

Notes

¹I say "for all intents" here because there are, perhaps, some things that are outside the realm of modality entirely — that are not in *any* world. Mathematical objects might be among these. (Lewis 1986, p. 94) The question of whether there are such things should be independent of the question of whether inclusionism is true. So inclusionism should be understood to say only that everything within the realm of modality is a world.

²For arguments against Lewis's modal realism that draw on these consequences of his views, see Bigelow and Pargetter (1990, pp. 189–193), Yagisawa (1992), and Bricker (2001). For a survey of, and reply to, some of these arguments, see Divers (2002, pp. 90–100, 103–105).

³Inclusionism is recommended on these grounds by Sider (2003, s. 3.8). Bricker (2001, p. 45) defends a more restrained version of inclusionism, in which every fusion of Lewis worlds is a world, as a way of making island universes possible. (Or, more strictly, he claims that this version of inclusionism is a terminological variant of the view he defends for this reason). Bricker's 'upward' inclusionism does not suffer from the unsolved problem that concludes this paper — but it does not have the other benefits I mention.

⁴For a dissenting view on this, and a defence of representation *de re* by overlap, see McDaniel (2004).

⁵To explain this further, it will be helpful here to use Lewis's (1968) formal treatment of counterpart theory. In that paper, Lewis is interested in showing how to translate sentences of quantified

modal logic into sentences of classical first order logic of the kind that the modal realist would believe, and take to give the truth conditions of the corresponding modal sentences. Intermediate steps in the translation involve a notation like this: $[\Phi]^w$, where Φ is some sentence of modal logic, and w is an individual term. I call this notation “indexing”, and say that, in this example, w is the index. $[\Phi]^w$ can be pronounced “ Φ is true at the world w ”. But it will help if you try to forget this. What I want to do is persuade you to see indexing in a new light.

The first step in translation is to replace a sentence of modal logic Φ with $\ulcorner [\Phi]^@ \urcorner$, where @ is the actual world. Lewis gives a series of rules for shrinking the scope of the brackets and superscript, and finally removing them entirely. The interesting rules for our purposes are the quantifier rules:

Replace $\ulcorner (\forall\alpha)(\Phi)^\beta \urcorner$ with $\ulcorner (\forall\alpha)(\alpha \text{ is in } \beta \rightarrow [\Phi]^\beta) \urcorner$.

Replace $\ulcorner (\exists\alpha)(\Phi)^\beta \urcorner$ with $\ulcorner (\exists\alpha)(\alpha \text{ is in } \beta \wedge [\Phi]^\beta) \urcorner$.

These are the only rules in Lewis’s translation scheme in which the index of the left hand side appears on the right hand side not as an index. It’s clear what the index is doing here: it’s restricting the quantifiers. And the role of @ is to provide the “default” restricted domain — the domain to use when none has been provided by a modal operator.

⁶This suggestion is similar to that of Yagisawa (1992).

⁷For an account of how to do this by using Gricean conversational norms, see Rayo (2003).

⁸A more accurate, but less memorable label would be “the problem of the husbands who are not married to anyone”. “Is married”, in its unary form, is a predicate much like “is a husband” — the problem comes about from a mismatch between extrinsic, atomic, unary predicates such as “is a husband” (or “is married”) on the one hand, and complex predicates containing explicit quantifiers such as “is married to someone” on the other. It’s not that, according inclusionism, there might have been an unmarried husband — it’s that, according to inclusionism, there might have been someone who is *married*, without being *married to* anyone.

⁹Stephen Yablo has suggested to me (in personal communication) that perhaps a safe way to save his analysis of “intrinsic” is to abandon the hope of analysing modality that counterpart theory and modal realism hold out to us and give truth-in-a-world some modal gloss. We could understand “ x is H in w ” as “if w was the sum of all that existed, x would be H ”.

For this to work, it would have to be that, for any x , if x were the sum of all that existed, then x would have all its actual intrinsic properties. There are two problems here: 1) Perhaps this counterfactual isn’t true? If I were all that existed, how would my internal processes keep going, with nothing to breathe? Perhaps if I were all that existed, I would not be a human being at all, but a cosmos. 2) Even if it is true, it does not seem to be such a conceptual truth as Yablo demands for an analysis of modality. We already have analyses, such as Langton and Lewis’s, that work out alright *if* the facts of naturalness are right; Yablo would only have added one that works out alright *if* the facts of counterfactuals are right.

¹⁰It might be thought that there is no mystery about the unanalysed indexed notation. Suppose that, as is standard, the semantic value of a predicate is its intension; it is the function from possible worlds to the extension of that predicate at that world, where the extension of a predicate is the set

of things falling under that predicate. Then let us read $[Hx]^w$ as “the intension of H maps w to a set containing x ”.

If we are to marry this view about the semantic values of predicates to modal realism (either inclusionist or isolationist), we need a recipe for finding the extension of a predicate at a world, given what that world is like. Which are the things that world w represents as falling under the predicate H ? This is the very question of representation *de re* to which counterpart theory is the modal realist’s answer. So it would be circular to make use of the intension of a predicate in formulating counterpart theory.

The view that the semantic values of predicates are intensions isn’t crazy, it’s just that it fits better with rival accounts of what worlds are — accounts on which the question of representation *de re* is very easy to answer. (For example, if worlds are maximal consistent sets of sentences, then a world w represents x as falling under H iff “ Hx ” is a member of w). Modal realists, in contrast, tend to hold that the semantic value of a predicate is its extension — the set of all possible things falling under it.

References

- Bigelow, J. and R. Pargetter (1990). *Science and Necessity*. Cambridge: Cambridge University Press.
- Bricker, P. (2001). Island universes and the analysis of modality. In G. Preyer and F. Seibelt (Eds.), *Reality and Humean Supervenience*, pp. 27–55. Lanham: Rowman and Littlefield.
- Divers, J. (2002). *Possible Worlds*. London: Routledge.
- Divers, J. (2004). Agnosticism about other worlds: A new antirealist programme in modality. *Philosophy and Phenomenological Research*. Forthcoming.
- Kripke, S. A. (1972). *Naming and Necessity*. Cambridge, MA: Harvard University Press.
- Lewis, D. (1968). Counterpart theory and quantified modal logic. In *Philosophical Papers*, Volume 1, pp. 26–39. Oxford: Oxford University Press.
- Lewis, D. (1986). *On the Plurality of Worlds*. Oxford: Blackwell.
- McDaniel, K. (2004). Modal realism with overlap. *Australasian Journal of Philosophy* 82, 137–152.
- Rayo, A. (2003). When does ‘everything’ mean *everything*? *Analysis* 63, 100–106.

- Rosen, G. (1990). Modal fictionalism. *Mind* 99(395), 327–354.
- Sider, T. (2003). Reductive theories of modality. In M. J. Loux and D. W. Zimmerman (Eds.), *Oxford Handbook of Metaphysics*. Oxford: Oxford University Press.
- Yablo, S. (1999). Intrinsicness. *Philosophical Topics* 26, 479–505.
- Yagisawa, T. (1992). Possible worlds as shifting domains. *Erkenntnis* 36, 83–101.