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CONTENTS

IN DEFENCE OF MAGICAL ERSATZISM

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David Lewis' objection to a generic theory of modality which he calls 'magical ersatzism' is that its linchpin, a relation he calls 'selection', must be either an internal or an external relation, and that this is unintelligible either way. But the problem he points out with classifying selection as internal is really just an instance of the general problem of how we manage to grasp underdetermined predicates, is not peculiar to magical ersatzism, and is amenable to some familiar solutions. He provides no compelling grounds for thinking that classifying selection as external is unintelligible, and his argument has a false presupposition. I conclude that magical ersatzism is still a viable option in the metaphysics of modality.

In his magnificent *On the Plurality of Worlds* David Lewis explains why he rejects a generic theory of modality he calls 'magical ersatzism'.[1] Here I argue that his objections fail.

I. MAGICAL ERSATZISM

Magical ersatzism (hereafter M) runs as follows. There are certain abstract simple 'elements', causally inert entities that lack any mereological or set-theoretic structure. There is the concrete world, the mereological sum of every concrete particular that actually exists ('I and all my surroundings'). And there is a binary relation, 'selection', that the concrete world bears to some but not all of the elements.

Whether or not the concrete world selects some element

> ... depend[s] on what goes on within the concrete world. For instance, there are some elements that cannot be selected unless there is a talking donkey included as a part within the concrete world. And there is one element such that, necessarily, it is selected if and only if there is a talking donkey (*PW*, p. 174).

[1] D.K. Lewis, *On the Plurality of Worlds* (Oxford: Blackwell, 1986), §3.4 (hereafter *PW*). He raises similar objections in 'Against Structural Universals', *Australasian Journal of Philosophy*, 64 (1986), pp. 25–46.

This dependence allows us to think of the elements as 'representational': element *e represents* that so and so $=_{df}$ necessarily, if the concrete world selects *e*, then so and so. And it allows us to define a relation of 'implication' among them: element *e implies* element *e** $=_{df}$ necessarily, if the concrete world selects *e*, then it also selects *e**.

(M) also includes two principles about the elements. First, they constitute a plenitude: for each distinct way the concrete world might be, there is some distinct element *e* such that, necessarily, the concrete world selects *e* iff the concrete world is that way. Secondly, they constitute a complete atomic Boolean algebra under the implication relation. Lewis (*PW*, p. 175) points out that

> In this Boolean algebra, there are many elements, called *maximal*, that are not implied by other elements.... Necessarily, no matter what goes on within the concrete world, one and only one of the maximal elements will be selected. Then the selected elements will be exactly those which the maximal element implies.

These maximal elements are (M)'s 'worlds'.

Finally, (M) relates all this to modality by adopting the familiar Leibnizian schema (L): it is possible that so and so iff some world represents that so and so. So (M) entails, for instance, that it is possible that there are talking donkeys iff some world represents that there are talking donkeys, in other words, iff there is some maximal element that can be selected only if there are talking donkeys.

Lewis points out that (M) is more schema than theory. It is uncommitted on whether the elements are *sui generis* or already familiar members of our ontology; it is uncommitted on how selection works (i.e., on how the elements represent what they do); and it contains no explanation for the two principles, and no analysis of the modality they employ. In fact, he points out, if the elements were not required to be abstract simples, *all* Leibnizian accounts of modality would qualify as instances of (M), including even his own modal realism:

> ... maybe the elements are the sets of worlds, the concrete world selects just those elements that have it as a member, and ... an element [represents] that a donkey talks iff each world in that element has a talking donkey as a part.[2]

The requirement that the elements are abstract simples is supposed to disqualify modal realism. It also disqualifies 'linguistic ersatzism', whose analogues of the elements are set-theoretically complex, and 'pictorial

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[2] *PW*, p. 175. By 'world' here Lewis means not a maximal element but something like a maximally spatiotemporally inter-related concrete particular (*PW*, §1.6, pp. 71ff.). (M)'s maximal elements correspond to the unit sets of Lewis' worlds. (However, in one sense, unit sets are themselves abstract simples.)

ersatzism', whose analogues of the elements are mereologically complex, to both of which Lewis has other objections (see *PW*, pp. 142–74). But a large number of theories do still qualify; Lewis mentions those of Plantinga, Stalnaker, van Inwagen, Slote, and Prior and Fine.[3] And therein lies the interest of (M). For any objections to it are at once objections to a large number of theories. Indeed, Lewis' objections constitute a crucial part of his argument that modal realism is preferable to all rival theories of modality.

II. A SUMMARY OF LEWIS' OBJECTIONS TO (M)

These objections to (M) focus on its linchpin, the relation of *selection*. The magical ersatzer adopts 'selects' as a primitive, and need not speculate on the nature of the selection relation. But we do know that selection must have whatever features are necessary for playing the role which (M) implicitly defines for it. And this alone, Lewis thinks, provides sufficient traction to refute (M).

In outline, he argues as follows. (1) Selection must be either an 'internal' or an 'external' relation. But (2) an internal relation capable of playing the role which (M) defines for selection would be ungraspable; and (3) it is unintelligible how an external relation could play this role at all. Either way, then, 'selects' is unintelligible, even when taken as a primitive. And a genuinely unintelligible notion cannot be made intelligible by further ana-lysis. So (M) and all its instances should be rejected.

Because (M) is so schematic, this argument, if successful, constitutes an extraordinary *tour de force*. It shows that most Leibnizian theories of modality are not just false but literally unintelligible, all without assuming anything to distinguish them from modal realism except that their elements are abstract simples.

III. PREMISE (1): SELECTION MUST BE EITHER AN INTERNAL OR AN EXTERNAL RELATION

A relation is *internal* iff it supervenes on the intrinsic natures of the *relata* 'considered separately', i.e., iff it cannot vary among (intrinsic) duplicates of

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[3] A. Plantinga, *The Nature of Necessity* (Oxford UP, 1974); R. Stalnaker, 'Possible Worlds', *Noûs*, 10 (1976), pp. 65–75; P. van Inwagen, 'Indexicality and Actuality', *Philosophical Review*, 89 (1980), pp. 403–26; M. Slote, *Metaphysics and Essence* (Oxford: Blackwell, 1975), pp. 146–56; A.N. Prior and K. Fine, Postscript to *Worlds, Times, and Selves* (London: Duckworth, 1977); P. Forrest, 'Ways Worlds Could Be', *Australasian Journal of Philosophy*, 64 (1986), pp. 139–60.

the *relata*.[4] Candidate internal relations include being-taller-than and being-the-same-colour-as: if *x* is taller than *y* or is the same colour as *y*, then any duplicate of *x* is also taller than or the same colour as any duplicate of *y*.

A relation is *external* iff it is not internal, but still supervenes on the intrinsic nature of the mereological sum of the *relata*, i.e., if it cannot vary among duplicates of the *relata* whenever the sum of these duplicates is a duplicate of the sum of the *relata*. External relations are non-internal relations that depend only on the qualitative natures of the *relata* and on other ways in which the *relata* are related, regardless of the state or existence (or non-existence) of anything else. Candidates include spatiotemporal relations such as being-one-metre-from: *x* could be one metre from *y* while a duplicate of *x* still fails to be one metre from a duplicate of *y*, even though whether *x* is one metre from *y* is still intrinsic to their sum. In fact, Lewis (*PW*, pp. 69ff.) claims that spatiotemporal, or at least analogically spatio-temporal, relations are the only external relations we know of.

Finally, some relations are neither internal nor external; they can vary among duplicates of the *relata* even when the sum of these duplicates is a duplicate of the sum of the *relata*. Roughly, these are relations that depend on something other than the *relata* or other ways in which they are related. Candidates include having-the-same-owner-as and being-more-popular-than.

Lewis rejects the suggestion that selection might be neither internal nor external. How could whether or not the concrete world selects a particular element depend on anything other than the sum of the concrete world and that element? What else could it possibly depend on? And anyway even if it did, Lewis (*PW*, p. 182) writes that this 'would presumably make it equi-valent to an external relation of the elements to something even more inclusive than the concrete world', in which case it would still be subject to (a suitable adaptation of) the objection he raises against classifying it as external. I shall take it as agreed that selection is either internal or external.

IV. PREMISE (2): AN INTERNAL SELECTION RELATION WOULD BE UNGRASPABLE

Selection cannot be grasped by ostension, because no one can have causal interaction with any of its instances – (M)'s elements are causally

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[4] Roughly, the intrinsic nature of a thing is the conjunction of its intrinsic properties. An intrinsic property is one that something has (or lacks) *per se*, in and of itself, regardless of the state or existence (or non-existence) of any distinct thing; intrinsic properties cannot vary among duplicates. Candidate intrinsic properties include shapes, colours, charges, masses and lengths.

inert.[5] Nor can selection be grasped via a list (even if the elements were namable) because the concrete world instantiates infinitely many distinct properties, so there must be infinitely many distinct selected elements – far too many to list. That leaves only one possibility: grasping it by grasping some defining condition on the *relata*, some condition of the form

S.   *x selects y* iff $(P_1 x \ \& \ Q_1 y)$ or $(P_2 x \ \& \ Q_2 y)$ or ...[6]

where the P-properties ('the Ps') are properties that the concrete world might instantiate ('ways it might be'), and the Q-properties ('the Qs') are properties instantiated by the elements in virtue of which they represent what they do ('representational' properties). But, Lewis argues, no one could grasp an instance of (S), at least if selection is internal. Hence an internal selection relation would be ungraspable, except perhaps by magic.

To expose the problem with grasping an instance of (S) I shall focus on the Q-properties. These are instantiated by the elements, so they must be at least capable of instantiation by abstract simples. And there must be at least $\beth_2$ of them. For if the elements are to constitute a plenitude, there must be a distinct Q-property for each distinct possible way the concrete world might be, and there are at least $\beth_2$ distinct ways the concrete world might be.[7] Finally, if selection is an internal relation, one that supervenes on the intrinsic natures of the *relata* considered separately, the Q-properties must be *intrinsic*.

The problem is that we are actually acquainted with very few intrinsic properties even capable of instantiation by abstract simples, far too few for us ever to grasp a specific instance of (S). We are not acquainted with any – and this includes the Qs themselves – via causal interaction with the elements, of course, because the elements are inert. Lewis writes that

> Properties of charge, mass, quark colour and flavour, and the like, might perhaps do (if they could somehow be shared by abstract simples ...).

Unfortunately, there are at most continuum-many of *those* properties; yet, as we know, there must be at least $\beth_2$ Q-properties. Thus (*PW*, p. 178)

> ... there are not nearly enough of those properties to make all the differences we need. So at least the great majority of the [Q-properties] must lie entirely outside our acquaintance. Then it is a mystery how anyone could have understood the predicate 'selects', which is supposed to express an internal relation that involves these properties. If the ersatzer has understood his own primitive, he must have done it by magic.

Lewis envisages the magical ersatzer as responding that we grasp the Qs by description rather than by acquaintance, via what they represent: one is the property of representing that there are talking donkeys; another is the property of representing that there are blue swans; etc. But, as he points out, this response is question-begging. For 'representation' is defined by (M) in terms of selection; it is not an independent notion. So the descriptions themselves are graspable only if selection is.

V. WHY THE ARGUMENT FOR PREMISE (2) IS UNCONVINCING

This argument is difficult and abstract; van Inwagen calls it 'profoundly tricky' and talks of its 'mazes'.[8] But so far as I understand it, it seems flawed. In this section, I discuss two responses.

V.1. *Response 1: naturalness*

It is a Moorean fact that somehow or other we grasp many properties and relations whose extensions are at least partly beyond our acquaintance. We grasp addition and greenness, for instance, despite lacking acquaintance with instances that would distinguish them from quaddition and grueness. Lewis himself has suggested a general explanation of how we manage it: nature treats the candidates differently – addition is just more natural than quaddition, greenness more natural than grueness.[9] So perhaps nature has obliged here too. Each specific instance of (S) corresponds to a specific pairing of the Ps and Qs (i.e., a one–one function from the Ps to the Qs). Perhaps one such pairing is more natural than the others. I shall call it 'R_n', whichever one it is.[10] Naturalness, unlike representation, is independent of

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[8] P. van Inwagen, 'Two Concepts of Possible Worlds', in P.A. French *et al.* (eds), *Midwest Studies in Philosophy*, 11: *Studies in Essentialism* (Univ. of Minnesota Press, 1986), pp. 185–213.

[9] See, e.g., Lewis, 'Putnam's Paradox', *Australasian Journal of Philosophy*, 62 (1984), pp. 221–36.

[10] If the following response is to be viable, R_n ought also to be an 'eligible' relation, in the sense discussed below. For clarity, I shall ignore this complication. It does not affect the point.

selection. So the magical ersatzer can exploit R_n to grasp particular Qs by description without begging the question after all: one is the Q-property which R_n pairs with the property of having donkeys as parts; another is the Q-property which R_n pairs with the property of having blue swans as parts; and so on. The ersatzer can also exploit R_n to grasp a determinate meaning for 'selects':

S_n. *x selects y* iff there is a P-property *P* and a Q-property *Q* such that $R_n(P,Q)$ and *Px* and *Qy*.

Roughly, the concrete world selects just those elements whose intrinsic properties are 'naturally paired' with its own. And (S_n) is easily graspable. In particular, it does not presuppose a grasp of a sufficient number of the Qs 'to make all the differences we need'. In fact, it does not presuppose a grasp of any specific Qs at all. (S_n) quantifies over the Qs, rather than containing predicates for them.[11] (Anyway, grasping enough Qs to make all the differences we need would mean grasping $\beth_2$ Q-properties, which is impossible regardless of what they are like. No extant Leibnizian theory of modality would be intelligible if this were required.)

It would be misguided to complain here that there is no independent evidence that one pairing is more natural than any other. For there is never independent evidence that one relation or property is more natural than the competing candidates. Rather, the fact of successful reference itself constitutes the evidence – naturalness just is whatever accounts for reference to a specific candidate despite underdetermination by all (other) evidence. Addition and greenness must be more natural than quaddition and grueness precisely because otherwise we could not refer to them, which obviously we do (see Lewis, 'Putnam's Paradox'). Moreover, Lewis says that he is attacking the graspability of a *natural* internal selection relation, and what else could this be but one that supervenes on a natural relation among the intrinsic properties of the *relata*?

In short, if one pairing of the Ps and Qs is more natural than any other, then the magical ersatzer has the resources to grasp many of the Qs and a determinate meaning for 'selects' after all.

[11] There is nothing unusual about grasping internal relations via quantification over the properties on which they depend. Presumably, we grasped (perfect) duplication, for instance, by grasping '*x is a duplicate of y iff there is an intrinsic nature that they share* (or perhaps *x is a duplicate of y iff they share all their intrinsic properties*). Indeed, duplication shares all the relevant features of selection: it cannot be grasped by ostension, for there are no actual pairs of (perfect) duplicates that we are acquainted with; its possible instances are far too numerous for us to list; and the great majority of the properties it involves – intrinsic natures (or perhaps intrinsic properties generally) – are not actually instantiated, and so lie beyond our acquaintance. Yet a theory that takes 'duplicates' as primitive need not be unintelligible.

V.2. *Response 2: vagueness*

I shall call any arbitrary binary relation under which the elements constitute a complete atomic Boolean algebra an 'implication relation'. This is a purely structural matter. Whether a relation qualifies as an implication relation does not depend on the identity or nature of the *relata*, the elements themselves; it depends only on the pattern of the relation's distribution among them. So there are innumerable implication relations. (M)'s second principle guarantees that there is at least one. Another is generated by any permutation of the elements that leaves the structure untouched. (M)'s first principle effectively guarantees there are many such permutations.

Clearly, for each implication relation I, there is a way of pairing the Ps and Qs so that the structure imposed by I on the elements reflects the structure of the relations among the Ps. That is, for each implication relation I, there is a pairing R_I such that element e bears I to element e^* iff there are properties P and P^* such that the concrete world cannot instantiate P without also instantiating P^*, and e instantiates the Q-property paired by R_I with P while e^* instantiates the Q-property paired by R_I with P^*. And each such pairing in turn determines a candidate selection relation, selects$_I$: x selects$_I$ y iff there is a P-property P and a Q-property Q such that $R_I(P,Q)$ and Px and Qy. When a candidate selection relation is derived from an implication relation in this way, I call it 'eligible'. Clearly there are also innumerable eligible candidate selection relations.

(M) does not attempt to analyse modality, or to explain the principles or the nature of the elements. It attempts merely to systematize our modal intuitions via the Leibnizian schema (L). And this modest goal is met so long as every instance of (L) comes out true and the right pattern of inferences among our modal intuitions is preserved. This in turn requires only that the elements are sufficiently numerous, that they constitute a complete atomic Boolean algebra, and that this algebraic structure reflects the relations among the Ps. What all that means, in effect, is that the only requirement which (M) places on selection is eligibility – eligibility exhausts the role (M) defines for selection. So it does not matter *which* eligible selection relation is in fact the meaning of 'selects'; any would do equally well the job which (M) requires of it. So the magical ersatzer need not decide among them. He can allow that 'selects' is vague: its meaning fails to determine any particular one of innumerable equally good, i.e., eligible, candidate selection relations. This vagueness is harmless, given (M)'s limited goals. And vagueness certainly does not mean unintelligibility, or we are all in trouble. (One can grasp a vague term even if one grasps none of its precisifications – the innumerate

can grasp 'baldness', those ignorant of water-droplets can grasp 'cloud', etc.) In this case, 'selects' is easily grasped: we need grasp only the schema (S) itself and the notion of eligibility. There is no more to its meaning to be grasped. And grasping these seems unproblematic. In particular, it does not presuppose a grasp of any specific Qs or of any specific candidate selection relation at all – that would be to grasp more than is involved in the meaning of 'selects'. So even if Lewis is right that every one of these candidates is ungraspable, 'selects' itself is still graspable.

(One might object that this sort of indeterminacy is not analogous to more familiar sorts of vagueness: there is no natural ordering among the candidate meanings for 'selects', and it is not sorites-susceptible, for instance. But the more familiar sorts of vagueness all include this sort of indeterminacy, even if they include more besides. So the obvious intelligibility of vague terms shows that indeterminacy does not automatically mean unintelligibility. It is hard to see how, e.g., a failure of sorites-susceptibility or some other such disanalogy would undermine this.)

In short, the magical ersatzer can take 'selects' to be vague, in which case it is graspable even if each specific instance of (S) is ungraspable.

A final worry: in effect, I have assimilated Lewis' objection to the familiar problem of semantic underdetermination, how to explain our grasp of a term – in this case, 'selects' – when we grasp too little to pin down a determinate meaning for it, too little to decide between various candidate meanings – in this case, all the instances of (S). And I have pointed out two familiar solutions: posit naturalness to single out one of the candidates as *the* meaning; or take 'selects' to be vague, indeterminate in meaning between the eligible candidates. But one might protest. The problem of semantic underdetermination is pervasive: it afflicts nearly all our terms. Yet surely Lewis' objection turns on features peculiar to selection, in particular on its extreme underdetermination. The elements are entirely beyond our ken, and we know (almost) nothing about their intrinsic properties. It is not just that we lack a sufficient grasp of the Qs to pin down a specific instance of (S), it is that 'we have not the slightest idea what ... [the Qs] are; except that they are properties whereby a vast flock of abstract simples differ from one another' (*PW*, p. 178). The problem with selection, one might say, is not just the familiar one of underdetermination, but the highly unusual one of (almost) no determination at all!

Here the magical ersatzer should stand firm. The underdetermination of 'selects' is indeed extreme, but so what? After all, the problem of semantic underdetermination is not a matter of degree; it arises for any underdetermined term, regardless of whether this is slightly underdetermined (such as 'green'), very underdetermined (such as 'plus'), or almost completely

underdetermined ('selects'). Neither of my solutions presupposes a prior grasp of any specific Qs at all, or even of the nature of Qs in general (except perhaps that they are intrinsic 'properties whereby a vast flock of abstract simples differ from one another'). They account for a grasp of 'selects' regardless of the extent of its underdetermination, even if this is almost complete.

To summarize, Lewis asks how the magical ersatzer grasps the crucial primitive 'selects'. Not by causal acquaintance with the instances of selection, nor via a list. Nor, he argues, via an instance of (S), at least if selection is internal. For then it depends on the intrinsic properties of the elements – the Qs – and these are more or less entirely beyond our acquaintance. So if the magical ersatzer understands his own theory, this can only be by magic.

One way for the magical ersatzer to respond is to posit a natural (or most natural) relation pairing the Ps and Qs. This provides the resources to grasp many of the Qs (by description) and to determine a specific meaning for 'selects', via (S_n), without requiring any acquaintance with the Qs. Another way is to take 'selects' to be vague, indeterminate in meaning among the eligible candidates. In that case, grasping 'selects' would require only a grasp of the schema (S) and the notion of eligibility, neither of which requires any acquaintance with the Qs.

Finally, the magical ersatzer should not be spooked by the fact that we know next to nothing about the Qs. Lewis' problem is the familiar one of semantic underdetermination. And this problem and the applicability of the solutions are insensitive to the degree of underdetermination.

I conclude that Lewis' argument does not show that an internal selection relation would be ungraspable, or even that it generates any difficulties peculiar to (M).

VI. PREMISE (3): AN EXTERNAL SELECTION RELATION WOULD BE UNINTELLIGIBLE

This time Lewis objects to the very existence of an external selection relation, not just to our putative grasp of it. He argues as follows. In order for selection to play its assigned role in (M), it must be a 'modal' relation, for when the concrete world selects various elements, it does so in virtue of what it is like. If the concrete world has donkeys among its parts, for instance, then it *must* select certain elements; if it has no blue swans among its parts, it *must* fail to select certain others; and so on. (This is what justifies thinking of

the elements as representational.) In particular, selection is constrained by the *intrinsic* properties of the concrete world.

But that means it cannot be external. For it is unintelligible that an external relation should be constrained by the intrinsic properties of the *relata*, except perhaps by magic. Certainly it is unintelligible that there should be *spatiotemporal* relations that are so constrained:

> It cannot be, for instance, that there is an absolutely necessary connection ... whereby every charged particle must be exactly a certain distance from another particle. It's one thing for a particle to be charged, another thing for two particles to be at a certain distance – the common involvement of the same particle is not enough to make the alleged connection intelligible (*PW*, pp. 180–1).

And as before, 'we know of no external relations except the (strictly or analogically) spatiotemporal ones' (*PW*, p. 181). Moreover, such a connection would violate our intuitions about intrinsicality, about the natures of things (*PW*, p. 180):

> What makes a relation external, I would have thought, exactly is that it holds independently of the natures of the two *relata*.
> I ask: how can these connections be necessary? It seems to be one fact that somewhere within the concrete world, a donkey talks; and an entirely independent fact that the concrete world enters into a certain external relation with this element and not with that. What stops it from going the other way?

In short, (M) requires a necessary connection between facts about the concrete world's intrinsic nature on the one hand and facts about which elements it selects on the other. But our intuitions about spatiotemporal relations (the only known external relations) and intrinsicality point to the unintelligibility of any such connection if selection is external.

VII. WHY THE ARGUMENT FOR PREMISE (3) IS UNCONVINCING

This argument too is unconvincing. For one thing, it can apparently be parodied. The has-a-length-in-metres-of relation which concrete particulars bear to numbers is, presumably, external; whether or not it obtains seems independent of the intrinsic properties of numbers (whatever they might be). But it is constrained by the intrinsic properties of the first *relatum*: lengths are intrinsic properties. So, like selection, the has-a-length-in-metres-of relation is a modal external relation. Yet certainly it is intelligible.

(One might instead hold that distinct numbers all differ intrinsically and that any intrinsic duplicates of 2 will number things just as 2 does. Then the

has-a-length-in-metres-of relation would be internal, and the parody fails. But the parody still suggests that something is awry. For it shows that if Lewis is right, the assumption *must* be rejected. This is highly suspicious. Should not questions about the intrinsic properties of numbers and their role in determining the lengths in metres of concrete things remain open? After all, most of us have no idea whether numbers are intrinsic duplicates, or indeed whether they have intrinsic properties at all, let alone what their roles are.)

For another thing, the argument seems to prove too much. Only two assumptions prevent all Leibnizian theories of modality, including modal realism, from falling within its scope: that the elements are abstract simples, and that selection is external. But the abstractness and simplicity of the elements play no role in this argument. So all Leibnizian theories of modality which classify (their analogues of) selection as external fall within its scope, and should be accounted unintelligible. In particular, modal realism itself is threatened. Its analogue of selection is the member-ship relation ('... the elements are the sets of worlds, the concrete world selects just those elements that have it as a member'). And membership is external: it is clearly intrinsic, and yet it varies among duplicates of the *relata*.[12]

One obvious weakness in the argument is the analogy with spatio-temporal relations. Spatiotemporal relations hold among concrete con-tingent particulars capable of intrinsic change, whereas the range of selection consists of abstract and presumably necessarily existent and intrinsically immutable entities, *viz* the elements. With respect to the *relata*, the has-a-length-in-metres-of relation is a better analogue for selection than spatiotemporal relations. And it *is* modal. Indeed, among external relations with an abstract second *relatum* – has-a-length-in-metres-of, membership, instantiation – some sort of necessary connection or other seems to be the rule. The unintelligibility of modal spatiotemporal relations, then, is not a compelling reason to reject modal external relations like selection which have an abstract second *relatum*.

(One might object that these relations are poor analogues for selection because they are not natural; spatiotemporal relations are the only known *natural* external relations. But there can be only one reason to require that selection itself must be natural: graspability. Thus Lewis (*PW*, p. 182):

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[12] A simple argument shows this: let x and x^* be distinct duplicates. Now x is a member of its singleton $\{x\}$, but x^* is not. Yet $\{x\}$, like everything else, is a duplicate of itself. So x is a member of $\{x\}$, while a duplicate of x, *viz* x^*, is not a member of a duplicate of $\{x\}$, *viz* $\{x\}$ itself. Peter van Inwagen was the first to make this point: 'Two Concepts of Possible Worlds', pp. 207ff.

> [If] selection is not any kind of natural relation ... [then] there is nothing to it but a list – a list entirely out of reach of our thought and language ... so again it's magic if the ersatzer understands his own primitive ['selects'].

And if graspability is the issue, these other relations qualify as analogues for selection after all – natural or not, we clearly manage to grasp their predicates somehow.)

There is also a second and more fundamental weakness. What Lewis objects to is a necessary connection between two sorts of facts: facts about what the concrete world is like intrinsically, on the one hand, and facts about which elements it selects externally, on the other (*PW*, p. 180):

> I ask: how can these connections be necessary? It seems to be one fact that somewhere within the concrete world, a donkey talks; and an entirely independent fact that the concrete world enters into a certain external relation with this element and not with that. What stops it from going the other way?

But nothing in (M) requires these facts to be distinct at all. On the contrary, theoretical economy requires them to be identical. In general, the magical ersatzer should say that the fact that the concrete world selects, say, element *e* just is the fact that the concrete world is, say, F. To describe this one fact in terms of the selection of elements is to attribute to it a certain structure and existential commitments; but that is to *analyse* it, not to posit some additional fact magically connected with it. And then, of course, any mystery about a necessary connection evaporates: necessarily, the concrete world is F iff the concrete world selects *e*, simply because nothing can vary independently of itself (regardless of whether or not selection is external).

Admittedly, it sounds odd to say that containing donkeys is the very same thing as (externally) selecting an element. But in part, this is just unfamiliar terminology. Call the elements 'intrinsic properties' and selection 'instantiation' instead, and it sounds less odd: 'Containing donkeys is the same thing as instantiating an intrinsic property'. In part, it is probably also nominalistic queasiness about reifying from predicates. But nominalistic worries are quite general; they have nothing specifically to do with (M). In fact, the internal/external distinction itself already presupposes such reification; it is not even statable without quantifying over properties. In part, it may also be an assumption that if something is related to an intrinsic property it must be related 'internally'. But this assumption is entirely unwarranted. Anyway, it is not that odd: the facts clearly can be abstracted from; they have some structure or other. (And it is not as if we are identifying the elements with the donkeys themselves!) Moreover, oddity is not unintelligibility; any unintelligibility still remains to be argued for. Lewis'

argument bears only on the intelligibility of a connection between two distinct sorts of facts, not on the intelligibility of identifying them.[13]

To summarize, Lewis argues that it is unintelligible that facts about what the concrete world is like intrinsically and facts about which elements it selects externally should be necessarily connected. But his grounds consist only in a dubious analogy with spatiotemporal relations. And there is no reason to think these are really two sorts of facts at all; the magical ersatzer will presumably identify them, rendering any connection quite un-mysterious, whatever the nature of selection. Any remaining questions seem to be quite general and have nothing specifically to do with (M) or necessary connections between distinct facts.

VIII. CONCLUSION

The problem which Lewis points out for classifying selection as internal is amenable to some familiar solutions, despite the extreme under-determination of 'selects'. His argument against classifying selection as external is not compelling, and relies on a false presupposition, *viz* that facts about what the concrete world is like and facts about which elements it selects are two sorts of fact. Either way, then, he has given us no good reason to reject (M) and its instances.[14]

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[13] Does this proposed identification, a referee asked, throw any light on the previous issue of graspability? Not really. Suppose that as the identification suggests, the elements just are the Ps, the intrinsic properties of the concrete world. Then, in effect, selection is just the instantiation relation. If selection is internal, the intrinsic features of the properties themselves partly determine whether or not the concrete world instantiates them. But these features are still beyond our acquaintance. The identification merely transforms any difficulties with grasping selection into difficulties with grasping instantiation.