On the Plurality of Worlds, by David Lewis

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February 27, 2012

David Lewis is one of the most influential philosophers of our age, and *On the Plurality of Worlds* (henceforth, '*OPW*') is his magnum opus. *OPW* offers an extended development and defense of the hypothesis that there are many universes, things of the same kind as the universe in which we all live, move, and have our being. Lewis calls these universes "worlds", deliberately recalling the notion of a "possible world" familiar from modal logic and the metaphysics of modality.

The title invokes the thesis of the book: there are a plurality of worlds, things of the same kind as the world we inhabit, differing only with respect to what goes on in them. Lewis sought in earlier work (Lewis, 1973, pp. 84-6) to offer a direct argument from common sense modal commitments to the existence of a plurality of worlds.[1] *OPW* offers a less direct argument. Here, Lewis supports the hypothesis by arguing that, if we accept it, we have the material to offer a wide range of analyses of hitherto puzzling and problematic notions. We thereby effect a theoretical unification and simplification: with a small stock of primitives, we can analyze a number of important philosophical notions with a broad range of applications. But the analyses Lewis proposes are adequate only if we accept the thesis that there are a plurality of worlds. Lewis claims that this is a reason to accept the thesis. In his words, "the hypothesis is serviceable, and that is a reason to think that it is true." (p. 3)

OPW contains four large chapters. The first chapter fleshes out the thesis that there exists a plurality of worlds, and offers Lewis's analyses of philosophically important notions in terms of worlds and their denizens. The second chapter articulates and responds to objections to the hypothesis and its accompanying analysis of necessity and possibility. The third chapter surveys and

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[1]See (Stalnaker, 1976) for criticism.

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offers objections to competing conceptions of the nature of possible worlds. The fourth chapter is dedicated to exploring topics touching on the phenomenon of *de re* modality, and, in particular, defending Lewis's distinctive, counterpart-theoretic approach to that phenomenon.

The influence of *OPW* consists mainly in the adoption of Lewis's methodology, rather than his doctrines.[2] The thesis of a plurality of worlds is no exception. In the words of Ted Sider, a prominent contemporary sympathizer, "almost no one other than Lewis accepts it in its entirety." (Sider, 2003, p. 193) I will offer, then, only a brief characterization of the thesis of a plurality of worlds and the concomitant analysis of modality, and trace the course of some (but only some) of the objections to Lewis's defense that have been explored in the literature. I do not aspire to completeness. Instead, I will choose objections in an attempt to highlight important aspects of Lewis's methodology.

1   The Thesis of a Plurality of worlds

According to Lewis's theory, there are many worlds, each one a thing of the same kind as our world. I will call things of this kind "cosmoses," to emphasize Lewis's distinctive account of their nature. Our cosmos is familiar: it comprises an entire spacetime and all its contents. This is the only cosmos most of us believe in. Lewis holds, however, that there are other, less familiar cosmoses, which similarly comprise entire spacetimes and all of their contents.[3] Our cosmos, the actual world, is just one cosmos among many, coexisting with the others.

There are also many individuals in this array of cosmoses. Some of those individuals are in our cosmos; most are not. The things of one cosmos stand in no spatial or temporal relations to the things of another, nor is there causal interaction between cosmoses; different cosmoses are causally and spatiotemporally isolated from one another. Indeed, Lewis thinks that the cosmoses are individuated by their spatiotemporal isolation. If a thing in a cosmos x bears spatial or temporal relations to a thing in a cosmos y, then x and y are on that

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[2]Interestingly, Lewis's counterpart theory is more widely accepted. See (Merricks, 2003) for references and criticism.

[3]See (*OPW*, pp. 1-2, 69-81). Lewis's official view is that cosmoses are maximal mereological sums of entities that are related either spatiotemporally or by a relation suitably analogous to a spatiotemporal relation. Thus, other cosmoses comprise either entire spacetimes or entities analogous to spacetimes; see (*OPW*, pp. 75-6) for this wrinkle.

account the same cosmos.

No individual is in more than one cosmos on Lewis's view. This point comports with his conception of a world as a spatiotemporally isolated cosmos. Perhaps ordinary individuals like Obama can be scattered, having non-contiguous parts that are at some spatiotemporal distance from one another. But plausibly they cannot have parts that bear *no spatiotemporal relations whatsoever* to one another. So an ordinary individual like Obama cannot be in two entirely separate, disjoint cosmoses.[4]

Lewis introduces a new class of relations that may obtain between individuals of different cosmoses. These *counterpart* relations are founded in relations of similarity among them. Roughly, x is a counterpart of y iff x resembles y *in relevant respects* to a sufficient degree and no other individual in x's cosmos resembles y more closely *in relevant respects* than x. Different counterpart relations are yielded by different specifications of which respects are relevant. For instance, if the only respect of resemblance that is relevant in a given context is biological species, then in that context the counterpart relation obtains between you and any human being in any cosmos.[5]

A more finely grained treatment of Lewis's discussion of counterpart relations would be extremely complicated. The important point for present purposes is that the class of counterpart relations is delineated solely by reference to similarity in non-modal respects, without recourse to modal notions. Closeness of resemblance and sufficiency of degree of resemblance are apparently non-modal notions. Thus, counterpart relations are ultimately explained in terms of similarity in non-modal respects, without reference to necessity or possibility. They provide suitable raw material, then, for a proposal to reduce modal claims to a non-modal basis.

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[4]McDaniel (2004, 2006) describes a view that attempts to reconcile the idea that worlds are spatiotemporally isolated cosmoses with the idea that a single individual inhabits more than one cosmos. The view accepts that Obama does not have parts in disjoint cosmoses, claiming instead that Obama is wholly located in disjoint cosmoses.

[5]This explanation of the counterpart relation follows the treatment in (Lewis, 1968), except for the proviso "*in relevant respects*," which is added to preserve some of Lewis's claims about the admissibility of counterpart relations in *OPW* (pp. 88-9, 248-55); interestingly, Lewis neither repeats this explanation of a counterpart relation nor offers any very precise alternative characterization in *OPW*.

2 The Analysis of Modality

Interesting ontology. Why should we believe in it? Lewis argues in *OPW* that we should believe in it because, if we do, we can use it to offer analyses of modality, counterfactuals, properties, and the contents of psychological attitudes.[6] I will concentrate on the analysis of modality, since that is the focus of much of the book.[7] Lewis attempts to reduce modality by pairing modal claims with proposed analyses in non-modal terms. Lewis's theory separates modal claims into two kinds. The truth of the first kind, the *de re* modal claims, turns on the possibilities for particular individuals. The truth, for instance, of 'Bush might have lost the 2000 electoral vote' turns on what's possible for Bush. Lewis relies on counterparts to analyze *de re* claims. His analysis of the claim at hand is: there is a counterpart of Bush, an inhabitant of some cosmos or other, who lost.[8] This claim is no more modal than the claim that there is an opponent of Bush, an inhabitant of some state or other, who lost the vote. Modal claims of the second kind, the *de dicto* modal claims, do not turn on the possibilities for any particular individual. The truth, for example, of 'there might have been purple penguins' does not turn on how any particular individual might have been, but rather on the possible truth of a general claim to the effect that there are some purple penguins. Lewis's analysis of *de dicto* claims does not appeal to counterparts. In the case at hand, Lewis's analysis is: there is a cosmos which includes some purple penguins.[9] This claim seems no more modal than the claim that there is a state whose inhabitants include some wealthy surfers.

So far, we only have pairings of modal claims with non-modal analyses for two particular sentences. It would be useful to have a general recipe for pairing a claim made in the modal idioms of natural language with a proposed non-modal analysis in terms of cosmoses and counterparts. Lewis provided such a

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[6]See *OPW* (§§1.2-1.5).

[7]Lewis's proposed analyses of counterfactuals, properties, and the contents of attitudes each take up a subsection of the first chapter. The rest of the book is concerned with the proper treatment of modality.

[8]See (*OPW*, pp. 12-3). Corresponding to each pairing of a claim of the form 'it is possible that ϕ' with a non-modal analysis is an account of what's required for ϕ to be true at a cosmos. The truth of claims concerning particular individuals at a given cosmos is given by the properties of those individuals' counterparts (if there are any) in that cosmos. In this case, 'Bush lost the 2000 electoral vote' is true at a cosmos w iff Bush has a counterpart in w who lost a counterpart in w of the 2000 electoral vote.

[9]See (*OPW*, pp. 12-3). Again, Lewis gives us an account of what's required for a generalization like 'there are purple penguins' to be true at a cosmos; the generalization is true at a cosmos just in case the cosmos contains some purple penguins.

scheme in (Lewis, 1968). It often goes unremarked, however, that this scheme is repudiated in *OPW* (pp. 12-3).[10]   Lewis there argues that the analysis of modal claims in terms of cosmoses and counterparts will have to be done on a case by case basis.[11]   (He would still endorse the analyses offered for the two cases we have encountered.)

Many philosophers would think of this lack of systematicity as an objectionable feature of his theory. I am inclined, however, to cut Lewis some slack here. If Lewis gives us reason to be optimistic that, for every particular modal fact, there is an acceptable analysis of that fact in terms of cosmoses and counterparts, then he will have shown that all of modal reality can be described in non-modal terms. Providing a general recipe for giving such an analysis would be an impressive reason for optimism on this score, but we shouldn't assume at the outset that it is the only such reason.

3   Objection: The view is ontologically extravagant

Lewis's thesis of a plurality of worlds is ontologically extravagant when paired with his attempted reductions of modal claims. According to Lewis's view, since it is possible that there be purple penguins, there are purple penguins, albeit in other cosmoses. This is certainly a claim we ordinarily would deny. This ontological extravagance is often presented as a conflict between Lewis's theory and common sense. But it is no decisive objection to a theory that it conflicts with common sense. The progress of science, especially physics, has shown that common sense may sometimes be set aside. Scientists have discovered, for instance, that, contrary to common sense, simultaneity is frame-relative: there is no such thing as two events that are related by absolute simultaneity. But the ontological extravagance of Lewis's theory puts it into conflict with more than just the deliverances of common sense. Given that it is possible that classical Newtonian physics have been true, Lewis's theory commits us to the claim that

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[10] Fara and Williamson (2005, pp. 26-8) are an exception.

[11] Thus Lewis anticipates the conclusion reached by the objection, laid out in (Divers, 1999, p. 227), that Lewis's view can offer no general recipe for interpreting modal claims; Divers lays out the objection as a prelude to attempting a rebuttal, and so does not endorse the conclusion. Lewis's argument (*OPW*, pp. 11-13) turns on the difficulty of offering a systematic account of Humphrey's satisfying both 'x is necessarily human' and 'x is possibly nonexistent' without also satisfying 'x is possibly both nonexistent and human'.

there is such a thing as two events that are related by absolute simultaneity, albeit in another cosmos. Lewis's view, then, appears to conflict not just with pre-theoretic common sense, but also with the deliverances of mature science. The apparent conflicts are best understood as conflicts between Lewis's view and common sense *aided and corrected by mature science*. The examples of such ontological extravagance can be multiplied.

Lewis was well aware of these conflicts, and acknowledged that this was an objectionable feature of his theory of possible worlds.[12] He claimed, however, that the other virtues of his view made it the most attractive alternative on balance. In particular, the fact that it facilitates the reduction of modality to non-modal terms was for Lewis a conspicuous virtue.

Lewis ultimately concedes the objection from ontological extravagance. He characterizes the issue between his view and competing alternatives as a dispute about the appropriate way to balance the theoretical cost imposed by the view's ontological extravagance against the virtue of its reduction in the number of primitive notions.[13] Lewis holds that analyzing modality is worth the ontological extravagance of his view; reduction is more important than even this very severe form of ontological extravagance. His opponents disagree. One critic terms the ontological extravagance of Lewis's view "an appalling violation."[14] Perhaps this is one reason why few contemporary Lewis enthusiasts endorse the thesis of a plurality of worlds: they think the costs in ontological extravagance outweigh the benefits of eliminating primitive modality. Nevertheless, the methodological lesson here is clear and has been influential: *Reducing the number of primitives matters a lot.* Common sense counts when assessing a theory, especially when aided and corrected by mature science, but reducing the number of primitive notions often counts for more.

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[12]See (*OPW*, p. 135). Lewis also attempts here to mitigate the ontological extravagance by arguing that the physicist's denial of the existence, *e.g.* of absolutely simultaneous events is consistent (when interpreted correctly in context) with his view. His response, in essence, is that when physicists say "No two events are absolutely simultaneous", they ordinarily mean that there *actually* are no purple penguins. On Lewis's semantics for "actual" (*OPW*, §1.9, pp. 92-6), a proponent of his view can comfortably deny that there *actually* are any absolutely simultaneous events, *i.e.*, that there are any in our cosmos. See also the response to this problem at (Lewis, 1973, pp. 86-7).

[13]See (*OPW*, p. 156).

[14](Melia, 2008, p. 136)

4 Objection: The view is unmotivated

Traditionally, reductive theories of modality have been motivated by epistemological or metaphysical concerns about the notion. One rough-and-ready epistemological motivation for reducing modal facts to non-modal facts is that our standard techniques for gathering evidence about, *e.g.*, Obama only provide information about how he is; our observational and perceptual evidence gives us no information about how he might have been (other than the trivial information we glean by observing how he is). Similarly, our observational and perceptual evidence gives us no information concerning unactualized *de dicto* possibilities, like the possibility that there be purple penguins.[15] How, then, can we know about unactualized possibilities? If we can reduce unactualized possibilities to non-modal matters of fact, then we can know about the former in the same way we know about the latter.

Insofar as one finds these epistemological worries compelling, one will find Lewis's view objectionable. Lewis-style reductions just reintroduce the epistemological problem. Unactualized possibilities for Lewis turn on facts concerning how matters are in cosmoses which we do not observe or perceive. Lewis's response in effect is to reject the claim that our standard techniques for gathering evidence about Obama or penguins exhaust our techniques for gathering such evidence.[16] In particular, we do not need observational or perceptual evidence to give us information about things that exist *necessarily*, including numbers, sets, and possibilia. I won't pause to assess the plausibility of Lewis's response. The important point for present purposes is that Lewis clearly does not think that the desirability of reducing modality depends on the idea that a reduction would secure the observability or perceivability of modal facts. His reductions are not epistemologically motivated.

Sometimes philosophers take reduction to serve metaphysical rather than epistemological ends. These thinkers motivate reductive programs as a means of solving metaphysical puzzles concerning the facts or notions to be reduced. Sider, for instance, argues that modal properties are suspect because they "point beyond themselves": their instantiation involves more than "what objects are actually like." Sider calls properties that are suspect because they "point beyond themselves" *hypothetical properties*. He terms properties that do not "point

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[15]See the historically important argument at (Hume, 2001, §1.3.14.1).

[16]See (Lewis, 1973, p. 87) and (*OPW*, §2.4, pp. 108–15).

beyond themselves" *categorical properties*.[17] A reduction of modal properties, according to Sider, would show how they are instantiated in virtue of some congeries of categorical properties, thereby removing the putative grounds for suspicion. Lewis, by contrast, offers no such reason. His reductions are not metaphysically motivated.

In fact, they are not motivated at all. The methodological principle here seems to be that *reduction needs no motivation*. Lewis's official view is that reduction is desirable even when it isn't motivated by any feature in particular of the reduced claims or facts. Fewer primitives make for a better theory, even if the reductions in question solve no particular epistemological or metaphysical problems. Solving such problems is at best a further factor counting in favor of a reductive proposal.[18]

5   The Relevance Objection

A further problem for Lewis's view is that goings-on in places spatiotemporally isolated from this cosmos appear to lack the right sort of relevance to the question of what might have been the case here. For instance, the loss of some electoral vote by someone else in a different cosmos, bearing no spatiotemporal relations to Bush at all, seems irrelevant to whether Bush might have lost the electoral vote here in 2000. It is implausible to hold that the victories of other individuals in other elections in other spacetimes is intimately linked with the fact that Bush might have lost here in the way required by Lewis's analysis. The point is reinforced by a comparison to elections in other places in the cosmos which we all inhabit. The losses of other individuals in other elections in other countries seem to have nothing to do, in the relevant sense, with the possibility of a Bush loss here.

It's an overstatement to suggest that the losses by other people in other elections has nothing *at all* to do with the possibility of a Bush loss here. The loss of someone else elsewhere might provide *evidence* that Bush might have lost. But this is not the sort of relevance at issue. According to Lewis's view,

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[17]See (Sider, 2001, p. 41), (Sider, 2003, pp. 184-5).

[18]In this connection, it is worth emphasizing that Lewis claimed in (Lewis, 1973, p. 87) that parsimony in one's stock of primitive notions counts for a lot, but parsimony in one's stock of entities counts for little or nothing. For instance, Lewis thinks it does not tell against his theory that it commits him to the existence of more human beings than rival theories that do not endorse the thesis of a plurality of worlds. See (Nolan, 1997) for criticism on this point.

part of what it is for Bush to be a possible loser is that someone elsewhere who resembles Bush is a loser in fact. The objection appeals to what we might call a *constitutional intuition*: an intuition concerning what the modal fact in question consists in. According to the objection, Bush's being a possible loser does not consist, even in part, of someone else's losing. Since Lewis's view says otherwise, the objector argues, Lewis's view is incorrect. The evidential relevance of someone else's losing an election somewhere else does not impugn the cogency of the objection.[19]

Lewis himself dismisses the objection from relevance, writing that "I have often explained what [other cosmoses] have to do with modality, for instance by saying that the modal operators are quantifiers over them." (*OPW*, p. 98) The theory claims that part of what it is for Bush to be a possible loser is for someone resembling Bush to have lost elsewhere. The losses of other people elsewhere are relevant to Bush's possible loss according to the theory because they help constitute it; that's just what the theory says.

This response fails to engage with the constitutional intuition that drives the objection from relevance. I conclude that Lewis thought that constitutional intuitions of this sort should be given little weight in assessing the merits of the theory. The methodological commitment embodied in Lewis's response, then, is that *constitutional intuitions count for little or nothing.*

6   Plenitude and Fit

How are we to assess a reductive hypothesis, if not by appeal to the puzzles it solves or the constitutional intuitions yielded by reflection on its plausibility? One answer offered by Lewis is that we may assess a reductive hypothesis by what we might call *fit*: we ask whether accepting a reductive hypothesis for a certain phenomenon yields a theory which predicts and explains its central features. If it does – if the reductive theory fits the observed features of the phenomenon in question – then that counts in favor of the reductive hypothesis. For instance, by accepting the identification of the temperature of a thermo-dynamic system with the mean kinetic energy of its molecules, together with

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[19]Philosophers who have offered some version of the objection from relevance include (van Inwagen, 1985, p.119), (Plantinga, 1987, p. 209), and (Cameron, 2007). It might be what Kripke had in mind by the so-called "Humphrey objection" (Kripke, 1980, p. 45n). It's difficult to tell, since the passage in question is really a joke, and the underlying argument, if there is one, is not explicitly stated.

some ancillary assumptions, we can derive the ideal gas law from Newtonian mechanics. So, the reductive identification of temperature with mean kinetic energy is supported by its "fit" with observed features of temperature.

Can a similar argument be mounted in favor of Lewis's view? Lewis attempts such an argument in *OPW*. Fit can be achieved by supplementing Lewis's view with claims that guarantee that there is a possible world of the right sort to ground every possibility. To illustrate, suppose that we somehow supplement Lewis's theory so that it yields predictions about what is possible. We then check those predictions against an inventory of the modal facts: that it is possible for there to be purple penguins, but it is not possible for there to be unextended purple penguins, *etc.* Lewis's theory is confirmed to the extent that it predicts a large proportion of the modal facts and contradicts few or none. Lewis in fact holds that there are worlds of the right sort to back every possibility, holding that "absolutely *every* way that a world could possibly be is a way that some world *is*." (*OPW*, p. 2) Thus, Lewis is committed to the truth of every instance of

(PLENITUDE) If it is possible that ϕ, then there is a w such that w is a cosmos and 'ϕ' is true at w

where "true at" is analyzed in terms of cosmoses and counterparts in the way Lewis proposes. The antecedent of (PLENITUDE) makes a modal claim, and must be analyzed if Lewis is to have a theory containing no modal primitives. Applying a Lewis-style analysis, however, yields a triviality

> If there is a w such that w is a cosmos and 'ϕ' is true at w, then there is a w such that w is a cosmos and 'ϕ' is true at w,

which won't help secure a fit between predictions of Lewis's theory and what's possible. The triviality is satisfied, for instance, even if there is only one cosmos, the one we all inhabit. But such a view would exhibit, given Lewis's analysis of possibility, an extreme lack of fit: it would predict that it is not possible for there to be purple penguins (assuming there aren't any), even though that clearly is possible.[20]

A new idea is needed to secure the right kind of fit between Lewis's theory and the modal facts. Lewis proposes a *principle of recombination*. The guiding

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[20]This abbreviated discussion follows and simplifies the discussion at (*OPW*, pp. 86-7).

idea is the Humean thought that anything can coexist with anything: possibilities can be combined at will, *modulo* spatial re-arrangements to make sure that everything fits together. For instance, if there could be a nine-foot-tall man and there could be a purple elephant, then a nine-foot-tall man and a purple elephant could coexist, so long perhaps as they occupied different spatiotemporal regions. Lewis employs the notion of a *duplicate* to formulate his principle of recombination. Your duplicate, in this sense, has exactly the same intrinsic properties as you do.[21]   Presumably this requires that your duplicate is molecule-for-molecule exactly the same as you, from the skin in. Thus, your duplicate's hair is the same color as yours, her pancreas has the same size, shape, and mass, *etc.*Lewis's principle of recombination is:

(RECOMBO) If x_1 is an individual in a cosmos w_1, x_2 is an individual in a cosmos w_2, ..., then there is a cosmos $w^\forall$ containing any number (including 0) of duplicates of x_1 and any number (including 0) of duplicates of x_2, and ..., size and shape permitting.[22]

(RECOMBO) is not strong enough to achieve the fit Lewis seeks.[23]   To the best of my knowledge, no one has ever had skin which had the lime-green color of Oz's Wicked Witch of the West. I might have had skin of that color. But duplicating me and everyone else as many or as few times as you like never yield a person with green skin. If I, everyone else, and our duplicates are the only things that there happen to be that are sufficiently person-like, then Lewis's recombination principles can be satisfied without supplying a counterpart for me with skin of the right color. (RECOMBO) does not require that there be anything sufficiently person-like other than us and our duplicates. So, (RECOMBO) does not secure fit.

What's more, one might worry that the proviso "size and shape permitting" implicitly smuggles in primitive modality. The most natural way of reading that proviso interprets it as meaning, "so long as it is possible for there to be (in a single cosmos) things of those sizes and shapes, and in that arrangement."[24]   If (RECOMBO) is implicitly modal, it inherits the defects of (PLENITUDE) so

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[21]See (Lewis, 1983, pp. 355-61).

[22]See (*OPW*, pp. 87-90).

[23]See (Divers and Melia, 2002) for an argument that (RECOMBO) requires supplementation so that it says that *every spatiotemporal rearrangement* of duplicates is realized in some cosmos, size and shape permitting. ((RECOMBO) says nothing about rearrangements.) The present objection applies to such a supplementation of (RECOMBO).

[24]See n. 23. Thanks to Kit Fine and C.S. Jenkins for discussion.

far as securing the argument from fit is concerned. If it is not implicitly modal, then we need both a non-modal gloss on the proviso, and some reason to be optimistic that this gloss secures the fit we seek.

Lewis's recombination principle does not guarantee that there are cosmoses of the right sort to back every possibility. Lewis himself acknowledges the failure of (RECOMBO) to secure fit: "our principle of recombination falls short of capturing all the plenitude of possibilities" (*OPW*, p. 92). Thus, an attempt to support Lewis's view by appeal to its fit with the observed modal facts does not succeed. Even so, Lewis's embrace of a principle of recombination has been very influential.[25]   Also, the methodological doctrine employed – *reductive hypotheses may be confirmed by fit* – is widely employed.

7   The Significance of *OPW*

OPW's main thesis is audacious, but there are few today who defend it. *OPW*'s lasting significance lies instead in the methods of argument and theory-assessment Lewis developed and deployed on its behalf. I have attempted to illustrate Lewis's methodology by appealing to features of Lewis's exposition and defense of that main thesis. There is much of interest that I have left out, but I hope a clear picture still emerges. According to Lewis, we proceed in theorizing by attempting to pare down the number of primitive notions we need to fully characterize all of reality. We reduce the number of primitive notions by offering analyses, sometimes on a case-by-case basis, of claims framed using supposedly derivative notions. These analyses will often rely on the existence of unfamiliar entities for their adequacy. We shouldn't worry too much if the existence claims conflict with common sense, even aided and corrected by mature science: the reduction in the number of primitives may compensate for such implausibilies. Reduction of a notion need not be motivated by any special puzzle or problem presented by the facts it may be used to report; having fewer primitives is an independent theoretical virtue in its own right. It is of little or no moment that a reductive hypothesis contradicts constitutional intuitions, so our reductive proposals are not seriously constrained by our intuitions concerning what the reduced phenomenon consists in. We may use considerations of fit to support a

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[25]For instance, combinatorialism is endorsed in (Armstrong, 1973) and is taken as axiomatic in (Sider, 2007, p. 52). See (Saucedo, forthcoming) for helpful discussion and references.

reductive hypothesis, or to adjudicate among competing reductive hypotheses. But even a very radical hypothesis may be adopted without the support of considerations of fit, so long as it is sufficiently parsimonious in respect of number of primitives. In general, this methodological orientation strongly favors reduction in the service of securing a smaller primitive ideology. It is a, if not the, dominant methodological orientation of our day.

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