



Review

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ON THE PLURALITY OF WORLDS. By DAVID LEWIS. Oxford, England, Basil Blackwell, 1986. Pp. ix, 276. \$39.95, cloth; \$12.95, paper.

This book, which is derived from Lewis's 1984 John Locke Lectures, is the latest word on possible worlds from the discipline's foremost champion of *possibilia*. It is a serious defense, *a priori*, of Lewis's notorious doctrines (here called "modal realism") to the effect that there are tiny purple anthropologists who study human culture unobserved, colossal human-eating monsters 50 feet in height, professional philosophers earning annual salaries in excess of 37 million dollars (pre-inflation), and the like, and that these oddities reside in fabulous alternative universes that are never empirically detected by us (but that are empirically detectable by us).

The central idea of Lewis's theory is that whatever might have transpired involving individuals of our universe does indeed transpire in one of these alternative universes, involving counterparts of these individuals (p. 2)—"the principle of plenitude." Equally critical to Lewis's project is the converse principle that everything that transpires in one of these alternative universes involving our counterparts is something that might have transpired involving ourselves. We may call this "the principle of moderation."¹ Together these two principles assert an isomorphism between total *ways things might have been* with regard to this universe and extant alternative universes, prompting Lewis to identify the former with the latter (p. 86). Lewis thus misleadingly calls his alleged alternative universes "possible worlds," and indeed they play a role in Lewis's theory of modal discourse similar in many respects to that of the intensional possible worlds invoked in contemporary philosophical semantics, as conceived of by such writers as Saul Kripke and Robert Stalnaker, that is, maximally

¹These principles are not explicitly articulated as I have them. My statement of plenitude is based on a plausible interpretation of Lewis's less explicit formulation. Lewis provides a version of moderation which is closely related to, but much weaker than, the principle formulated here, and which he derives from the trivial modal logical truth that whatever is the case might have been the case (p. 5). This weaker principle, however, is insufficient for Lewis's purposes.

specific states or histories.² These genuine possible worlds Lewis misleadingly labels “ersatz worlds.” Like genuine possible worlds, Lewis’s alternative universes allegedly “represent” possible events and states of affairs that might have occurred concerning the individuals of our universe; they are supposed to be entities *according to which* this or that total history that might have transpired involving us and our spatiotemporal surroundings does transpire. But, Lewis insists, they are not something like maximally specific scenarios or stories; they are “something like remote planets” (p. 2), causally and spatiotemporally isolated physical systems, many replete with authentic tiny purple anthropologists and the like. By contrast with the canonical possible worlds of contemporary philosophical semantics, which are overtly intensional entities, Lewis’s alternative universes and their inhabitants are supposed to possess their alleged function of representation entirely by virtue of similarity relations to us and our universe. Indeed, Lewis claims that an assertion that such-and-such might have transpired involving us is just the assertion that such-and-such does transpire involving counterparts of us in some alternative universe. Thus, according to Lewis, to say that Hubert Humphrey might have won the 1968 presidential election is to say that there is an alternative universe in which a Humphrey counterpart—someone sufficiently resembling our Humphrey in certain respects—wins his presidential election in a counterpart of our tumultuous year of 1968, and to say that there might have been tiny purple anthropologists is to say that there *are* tiny purple anthropologists in an alternative universe.

The theory’s defense is pragmatic: It is argued that the postulation of alternative universes replete with authentic tiny purple anthropologists accomplishes useful things for us that the most likely rival theories do not. For example, Lewis argues, the postulation allows for a reductive analysis of modality, whereas the story-like entities of contemporary philosophical semantics require that modality be taken as primitive (pp. 150–157). Furthermore, conceptions of possible worlds as story-like entities whose constituents are restricted to actually existing entities cannot make certain modal discriminations, for example among qualitatively identical but numerically distinct possible but nonactual individuals (pp. 157–165).

The defense does not succeed. It is true that the conventional concep-

²See Robert Adams, “Theories of Actuality,” *Noûs* 8 (1974), pp. 211–231; Kripke, *Naming and Necessity* (Cambridge, Mass.: Harvard University Press, 1980), at pp. 15–20, 44–48, and *passim*; Alvin Plantinga, *The Nature of Necessity* (Oxford, England: Oxford University Press, 1974), at pp. 44–45, and *passim*; Stalnaker, “Possible Worlds,” *Noûs* 10 (1976), pp. 65–75; and my “Impossible Worlds,” *Analysis* 44 (June 1984), pp. 114–117.

tion of possible worlds as story-like entities does not allow for an analysis of modality in terms of possible worlds; on the contrary, possible worlds are seen as story-like entities that *might have* been true. However, the conventional conception *per se* does not require that modality be taken as primitive. In fact, Lewis himself is compelled to provide something like an alternative analysis of modality, (implausibly) in terms of recombination, in a section (pp. 86–92) devoted to an attempt to give substance to the principle of plenitude—which, on Lewis’s theory, is a trivial truism as stated. The conventional possible-world theorist, if so inclined, is free to propose similar (albeit similarly implausible) combinatorial analyses.³ More importantly, it is entirely unclear that modality is not in fact a primitive concept.⁴ Lewis’s second objection that the conventional conception lacks the resources to make required modal discriminations is more serious. But even if the point is well taken, it only argues for a need to quantify over all possible individuals, including nonactual individuals who *might have been* tiny purple anthropologists. It is no argument for the existence of things that *are* authentic tiny purple anthropologists, inhabiting authentic alternative universes spatiotemporally disjoint from our universe. Taken as a defense of Lewis’s theory of alternative universes, the argument blurs the critical distinction between an assertion concerning a possible individual *x* that it might have been such-and-such and the much stronger assertion that *x* is *in fact* such-and-such.⁵

More to the point, even if the postulation of alternative universes replete with tiny purple anthropologists had the advantages that Lewis claims over more palatable hypotheses, these alleged advantages would be obtained only by means of an hypothesis that is too far-fetched to warrant serious consideration. And even if, miraculously, Lewis’s principles of plenitude and moderation are correct, when we say that Humphrey might have won, what we say certainly has nothing to do with political goings-on in alternative universes, nor do those of us who believe that there just

³More accurately, the conventional theorist is free to propose combinatorial *explanations* of modality. Whether the proposed explication qualifies as a (purported) *analysis* depends on what counts as an analysis, properly so called. If Lewis’s explication of modality by means of his principles of plenitude and moderation, coupled with his explication of counterparthood in terms of resemblance, constitutes a (purported) analysis of modality, then some conceivable combinatorial explications based on the conventional possible-world approach also constitute (purported) analyses.

⁴I discuss the issue of the order of analysis further, and offer additional criticisms of Lewis’s arguments, in “The Logic of What Might Have Been,” unpublished.

⁵Cf. my “Existence,” in James Tomberlin, ed., *Philosophical Perspectives I: Metaphysics* (Atascadero, Calif.: Ridgeview, 1987), pp. 49–108.

might have been tiny purple anthropologists typically believe also that there are bizarre alternative universes in which such creatures do indeed exist.⁶

It is tempting to conclude from the theory and its defense that Lewis officially endorses an extremely implausible cosmological theory and, believing this theory to be relevant to the content of modal discourse, does not understand what it means (in English) to say “it might have been that such-and-such.” This reviewer conjectures that Lewis’s highly eccentric views concerning alternative universes, counterpart relations, and their alleged role in modal discourse have their ultimate source in a conceptual confusion between the modal proposition that x might have been such-and-such (where x is a possible individual) and the nonmodal proposition that x is in fact such-and-such (and is in some “world”).⁷ This conceptual

⁶Lewis considers the objection that necessity and possibility do not concern what transpires in extant alternative universes but concern instead what transpires according to alternative scenarios involving the totality of whatever there is, including whatever alternative universes there may be—since this totality itself might have been different in some way or other—and that this fact leads to serious difficulty for his theory (pp. 97–101). Lewis formulates this objection so that it depends on a separate criticism, which I am not making, of Lewis’s use of the terms “actual” and “world” as not covering all of what there is. Although Lewis’s response is aimed primarily at defending his restrictive use of these terms, the question of their correct use is in fact completely inessential to the general point of the objection (with which I am entirely sympathetic). My objection here is that, even if there are alternative universes that exactly mirror all of the possibilities concerning things of this universe in which we live and breathe, and none mirroring the impossibilities—whether these universes are said to be of this “world” or not—the fact (thought, belief, etc.) that our universe might have been different is obviously not a fact concerning any alternative universe. Exactly analogously, if everything that will ever take place on the planet Zartron is coincidentally exactly depicted in some tale or other told by Scheherazade, and conversely every tale told by Scheherazade coincidentally exactly depicts some series of events that will take place on Zartron, the fact that a volcano will erupt tomorrow on Zartron is still not a fact concerning Scheherazade’s tales, or vice versa. (If an astronomer predicts the Zartron eruption, he or she does not thereby assert something about Scheherazade’s tales, etc.) In response to the general point of the former objection, Lewis repeats his claim that “might have” means *according to some alternative universe* (p. 98), and insists that although the things of our universe might have been different in various ways, the whole of whatever there is (including whatever alternative universes there are) is not something that might have been different (p. 101n). These claims provide further confirmation of the conclusion of this review, that Lewis seriously misunderstands what “might have” means in English. (Thanks to Mark Johnston for suggesting that Lewis’s remarks in this connection should be addressed here.)

⁷This mistaking of possibility for a type of actuality could have resulted from Lewis’s having initially assimilated (correctly and contrary to his later theory) the modal proposition that x might have been such-and-such to the proposition that x is such-and-such in some possible world (that is, the proposition that *according to some possible maximal scenario*, x is such-and-such), and then mistaking the latter for the

confusion concerning such trivial assertions as that there might have been tiny purple anthropologists and that Humphrey might have been victorious, in combination with Leibniz's Law (and some finesse), leads more or less directly to Lewis's idiosyncratic account of the matter, and to a concomitant serious misunderstanding of the English phrase "might have."

The conjecture suggests that a nonliteral interpretation of Lewis's explicit theoretical pronouncements may be called for, in at least some contexts. Given Lewis's highly unusual theory of modal discourse, it is natural to construe his use of modal locutions ("might have," "necessarily," etc.) as implicitly nonmodal, and concerned instead with the goings-on in alternative universes. However, if Lewis confuses possibility with a kind of actuality, then an alternative and potentially more illuminating tack is to construe much of his apparently nonmodal discourse concerning the plurality of universes as implicitly modal in import (at some deeper level). There is one such nonliteral interpretation that makes some (though not all) of Lewis's claims somewhat more reasonable than they sound to the naked ear. The alternative interpretation replaces reference to (and quantification over) possible individuals with reference to (alleged) entities that I have elsewhere called "possible-world slices" of ordinary possible individuals.⁸ These are, roughly, possible individuals *as they might have been*, for example Humphrey-having-won-the-election (-and-also-being-such-that-. . . , where the entire universe is described in every detail). Indeed, although the matter is extremely delicate, much of Lewis's discussion of individuals as existing in only one "world" strongly suggests that, at least sometimes, he is actually discussing possible-world slices rather than ordinary, cross-world-continuant possible individuals.⁹ If *i* is an ordinary possible individual and *w* is a (genuine) possible world according to which *i* exists, the possible-world slice *i*-in-*w* may be represented (for present purposes) by the ordered pair consisting of *i* together with *w*. The alternative interpretation of Lewis's discourse is obtained as follows: (1) We reinterpret ordinary proper names and indexicals so that each refers to the actual-world slice of its standard referent. Thus, for example, Lewis's uses of

conjunctive nonmodal proposition that *x* is such-and-such and is literally *in* some "world," in something like the layman's sense (physical universe). My "The Logic of What Might Have Been" discusses some relevant ambiguities in the phrase "possible world." (I am not suggesting that Lewis went through this fallacious line of reasoning explicitly.)

⁸*Reference and Essence* (Princeton, N.J.: Princeton University Press and Oxford, England: Basil Blackwell, 1981), at pp. 107–111.

⁹Compare for example Lewis's original explication of his notion of counterparthood in "Counterpart Theory and Quantified Modal Logic" (in Lewis's *Philosophical Papers I* (Oxford, England: Oxford University Press, 1983), pp. 26–46), wherein he remarks (at p. 28) that "your counterparts are men you *would have been*."

the first-person pronoun “I” are interpreted as referring not to Lewis himself, but to his actual-world slice, Lewis-as-he-actually-is. (Lewis differs from his actual-world slice precisely in that the latter could not have been different in any way, and hence it exists in no possible worlds other than the actual world.) (2) We reinterpret quantifiers (and other variable-binding operators) so that their range with respect to a possible world w is typically the set of w -slices rather than the set of the cross-world-continuant possible individuals of which they are w -slices. (Thus, utterances of the modal locution “there might have been” are typically interpreted to mean roughly *some possible-world slice*.) In meta-modal contexts (in which modality is itself a topic of philosophical discussion), we re-interpret the quantifiers as typically ranging over all possible-world slices rather than over all cross-world-continuant possible individuals. (Sentential connectives are not re-interpreted.) (3) Most importantly, we must re-interpret most, but not all, ordinary predicates in such a way that a typical n -place predicate applies (with respect to a possible world) to an n -ary sequence $\langle x_1, x_2, \dots, x_n \rangle$ if and only if the x_i 's are possible-world slices of cross-world continuants that stand, respectively, in the n -ary relation associated with the predicate in its use in standard English, across the worlds of the x_i 's. Thus, for example, something is said to be “victorious” (with respect to a possible world) if and only if it is a possible-world slice x of a cross-world continuant that is (literally) victorious according to x 's world, and similarly for “tiny,” “purple,” “anthropologist,” etc. Analogously, x is said to be “taller than” y if and only if x and y are possible-world slices of cross-world continuants x' and y' such that x' 's height in x 's world is greater than y' 's height in y 's world.¹⁰ Notice that this step involves interpreting most of Lewis's apparently nonmodal discourse as implicitly invoking modality. For example, an utterance of “Nixon is a Republican” is interpreted to mean (roughly) that Nixon_@ is a possible-world slice of a cross-world continuant that *according to Nixon_@'s world* is a Republican—where “Nixon_@” is a name for Nixon's actual-world slice. (4) For every possible world w , we consider the w -slice of the mereological sum of all possible individuals that exist according to w , and we re-interpret the term “world” (as used in meta-modal contexts) as applying to these in place of genuine possible worlds. The meta-modal predicates “possible,” “actual,” and “accessible,” as applied to worlds, are re-interpreted accordingly to be applicable to these “worlds” in place of genuine possible worlds. (5) Finally, having done away with explicit reference to cross-world continuants,

¹⁰Cf. the discussion of cross-world relations in *Reference and Essence*, pp. 116–133. The mechanism described there for generating cross-world relations from the definitions or compositional analyses of binary relations is extendable to n -ary relations for arbitrary n .

the relation of genidentity between possible-world slices is replaced by the next best thing: resemblance. Accordingly, modal operators (the box and diamond, “must,” “might,” and subjunctive mood) must be interpreted in accordance with a counterpart-theoretic semantics rather than in accordance with standard modal semantics. Thus an utterance of “Humphrey might have been victorious” is interpreted to mean (roughly) that some possible-world slice x is both a counterpart of Humphrey_@ and a possible-world slice of a cross-world continuant that in x 's world is victorious—where “Humphrey_@” is a name for Humphrey's actual-world slice. This is equivalent (in some sense) to the assertion that there might have been someone who sufficiently resembled Humphrey in certain respects, as Humphrey actually is, and who was victorious.¹¹

This complex nonliteral interpretation makes such sentences as “Humphrey exists at only the actual world” and “There are worlds at which there exist tiny purple anthropologists” at least relevant to modality. It also makes their utterance not altogether unreasonable—provided the special predicate “exists at” is not among those that have been reinterpreted. In fact, in a number of respects this nonliteral interpretation of Lewis seems the most charitable one available. Still, it does not make everything Lewis says acceptable. Many find quantification over all possible individuals objectionable, of course—let alone quantification over all possible-world slices of sums of possible individuals—although I do not. Whatever the objections are of possible individuals, it is clear (contrary to Lewis's defense, under this interpretation) that the theory of possible-world slices that this interpretation attributes to Lewis cannot have any significant advantages over the theory of ordinary possible individuals and genuine possible worlds, since these theories are (for most purposes) effectively the same—except for the supplementation of the former by counterpart-theoretic modal semantics. Like many others, I find counterpart-theoretic semantics completely implausible as a semantic theory of the English modal operators “might have,” “must,” etc.¹²

¹¹This interpretation tends to support Kripke's original objection (in *Naming and Necessity*, at p. 45n) to Lewis's counterpart-theoretical treatment of this modal sentence concerning Humphrey. An alternative interpretation along similar lines is obtained if we leave names and indexicals alone, construe quantifiers as ranging over ordinary possible individuals, and provide a parallel re-interpretation of the predicates. This alternative nonliteral interpretation depicts Lewis as advocating a particularly inflexible essentialism with regard to ordinary possible individuals, with this endorsement of inflexible essentialism camouflaged by a counterpart-theoretic construal of modal operators. Cf. my *Reference and Essence*, at pp. 234–237.

¹²This issue is separate from Lewis's postulation of alternative “worlds,” and several writers (such as Graeme Forbes, Anil Gupta, Allen Hazen, Kripke, and Stal-

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In any case, Lewis vigorously protests being re-interpreted along lines similar to these (pp. 210–220), and indeed he appears to doubt the existence of possible-world slices (p. 214n). Given the extreme implausibility of Lewis's explicit pronouncements concerning alternative "worlds" (when these pronouncements are taken literally), and given their obvious irrelevance to modality, his protests do not constitute decisive evidence against the suggested interpretation (which otherwise fits most contexts remarkably well), but they do make it unclear how the Principle of Charity is to be applied. The proper conclusion to draw is this: Either (i) Lewis is to be taken literally, and he therefore officially endorses an extremely implausible and modally irrelevant cosmological theory of alternative universes and seriously misunderstands what such modal operators as "might have" mean (in English); or (ii) something like the suggested interpretation is correct and Lewis's theory of other "worlds" is therefore relevant to modality and more reasonable than it sounds, but he seriously misunderstands what ordinary names, indexicals, (most) predicates, quantifiers, and the modal operators refer to or mean (in English); or else (iii) some alternative interpretation (like the extreme-essentialist interpretation mentioned in footnote 11) is correct; or finally (iv) some combination of the above, for example, in some contexts Lewis is to be taken literally while in others something like the suggested interpretation is operative. Whichever is the case, Lewis seriously misunderstands what "might have" means.

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naker) who reject the postulation of alternative universes nevertheless favor, defend, or propose some form of counterpart-theoretic semantics for some contexts. (Kripke's suggestion of a counterpart-theoretic treatment for certain philosophical problems is made more or less in passing, amid an emphatic rejection of counterpart theory for most modal contexts. See his *Naming and Necessity*, at p. 51n.) Some of my objections to counterpart-theoretic modal semantics (in all contexts) are given in *Reference and Essence*, at pp. 232–246, and in more detail in "Modal Paradox: Parts and Counterparts, Points and Counterpoints," in P. French, T. Uehling, and H. Wettstein, eds., *Midwest Studies in Philosophy XI: Studies in Essentialism* (Minneapolis, Minn.: University of Minnesota Press, 1986), pp. 75–120.

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