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TWO CONCEPTS OF MODALITY: MODAL REALISM AND MODAL REDUCTIONISM

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Necessary and contingent propositions, objects with accidental and essential properties, possible worlds, individual essences—these are the *phenomena of modality*. I shall contrast two opposed conceptions of modal phenomena[1]; one of them, as I see it, is properly thought of as *modal realism*; the other is *modal reductionism*. 'Modal realism', as I use the term, has nothing to do with whether certain sentences or propositions have truth values; it has equally little to do with the question whether it is possible that our most cherished theories should in fact be false. I speak rather of *existential* realism and antirealism.[2] The existential realist with respect to universals, for example, holds that there really are such things as universals; the antirealist holds that there are no such things, and may add that the role said by some to be played by them is in fact played by entities of some other sort. The existential realist with respect to so-called theoretical entities in science—quarks or chromosomes, say—claims that there really are things with at least roughly the properties scientists say such things have; the antirealist denies this. In the first part of this paper, I shall sketch a version of modal realism; in the second I shall outline and briefly explain modal reductionism. My chief example of reductionism will be the important modal theory of David Lewis: I shall argue that Lewis is a modal realist and/or a realist about possible worlds in approximately the sense in which William of Ockham is a realist about universals: namely, not at all.

I. Modal Realism

A. Grade I: Accidental and Essential Properties

There are three grades of modal realism (to adapt a famous claim); so let us begin at the beginning and turn to the first. Here we may conveniently start with modality *de dicto* and the familiar distinction between necessary and contingent propositions. According to the modal realist, there are *propositions*: The things that are both true or false and capable of being believed or disbelieved. Every proposition is true or false (we may ignore the claim—misguided as I see it—that some propositions are neither); and every proposition is such that it is possibly believed or possibly disbelieved or both.[3] It is the *intentional* character of propositions that is most fundamental and important. Propositions are *claims*, or *assertions*; they *attribute* or *predicate* properties to or of objects; they *represent* reality or some part of it as having a certain character. A proposition is the sort of thing *according to which* things are or stand a certain way.

The modal realist therefore holds that there are propositions. What is specific to him as a *modal* realist, however, is the claim that true propositions come in two varieties: those that could have been false, and those that could not. Some but not all true propositions exclude falsehood by their very natures. In the first group would fall the theorems of first order logic, the truths of mathematics and perhaps set theory, and a miscellaneous host of less well regimented items, such as **no one is taller than himself, red is a color, no human beings are prime numbers**, and (at any rate according to some) **there is a being than which it is not possible that there be a greater**. Such propositions are necessarily true; they have the property of being true and have it esentially—i.e., they have it in such a way that they could not have lacked it. Other propositions, on the other hand, have the property of being true, all right, but have it accidentally: they could have lacked it. These are contingent propositions: for example, **Socrates was the teacher of Plato** and **Armidale, Australia, is about the same size as Saskatoon, Saskatchewan.** Necessary propositions are absolutely necessary; they are necessary in the strongest sense of the term. This sort of necessity—suppose we call it 'broadly logical necessity'[4]—is to be distinguished from causal or natural necessity (presumably our natural

laws and physical constants could have been different in various subtle and not so subtle ways) as well as from self-evidence (in either the narrow or extended sense), from what is known or knowable *a priori*, and what (if there is any such thing) we cannot give up.[5]

A necessary proposition, therefore, has truth (the property of being true) essentially; a (true) contingent proposition has it accidentally. Here we have a special case of a more general distinction: that between an object's having a property essentially, on the one hand, or accidentally on the other. Modality *de dicto* is an important special case of modality *de re*: the special case where the object in question is a proposition and the property in question is truth. But it is only a special case; for according to the modal realist of the first grade, *all* objects have both essential and accidental properties: there are objects and there are properties and all of the first have some of the second accidentally and some of the second essentially. The properties **being self-identical, being a person,** and **being possibly conscious** are essential to me; the properties **wearing shoes** and **liking mountains** are accidental to me. Nine, to take a famous example, has the property of being odd essentially but the property of numbering the planets accidentally. Of course there are variations on the theme of modal realism of the first grade; instead of saying that all objects have both essential and accidental properties, we could have said that *some* objects have both essential and accidental properties. More weakly still, we could have taken modal realism of the first grade as the claim that (*pace* Quine and others) there really is a distinction between necessity and possibility, counting as a modal realist anyone who affirms this, even if he also affirms (perhaps with Brand Blanshard and other idealists) that all objects have all their properties essentially.

B. Grade II: Possible Worlds

Not content with the claim that all objects have both essential and accidental properties, the modal realist of the second grade asserts that there are such things as *possible worlds* and that for any (temporally invariant) state of affairs or proposition **S**, **S** is possible if and only if there is a possible world that includes or entails it. She may think of possible worlds in more than one way. She may hold, for example, that there are states of affairs as well as propositions, where a state of affairs is such an item as **Socrates' being wise, 7 + 5's**

equaling 12, and **there being no lions in Australia**. A state of affairs is *actual* and *obtains*, or else is not actual and fails to obtain; and a state of affairs **S** *includes* a state of affairs **S*** if and only if it is not possible that **S** be actual and **S*** fail to be actual. Like propositions, states of affairs have complements or negations: indeed, states of affairs and propositions are isomorphic, with **actuality** and **inclusion** for states of affairs replacing **truth** and **entailment** for propositions. She may also think, as I do, that some propositions (and states of affairs are) *temporally variant*; their truth values can vary over time. Thus the proposition **Paul is eating** is true at the present time, but not, fortunately enough, at every time. As I see it, a sentence like 'Paul is eating', assertively uttered at a time **t**, does not express the temporally invariant proposition **Paul eats at t** but a temporally variant proposition true at just the times Paul eats. Since states of affairs are isomorphic to propositions, there are also temporally variant states of affairs—**Paul's eating**, for example—which obtain at some times but not at others.[6] Possible worlds, then, are possible states of affairs: more specifically, they are temporally invariant states of affairs. Still more specifically, a possible world is a *maximal* possible state of affairs, where a state of affairs **S** is maximal if and only if for every state of affairs **S***, either **S** includes **S*** or **S** includes the complement $\sim$**S*** of **S***. Alternatively, we could say that a possible world is a maximal possible *proposition*: a proposition that is possible, and for every proposition **p** either entails (in the broadly logical sense) **p** or entails $\sim$**p**. (Of course if states of affairs just *are* propositions, then my "alternatively" was not appropriate.)

It is clear that the second grade is indeed a step beyond the first: even if there are both necessary and contingent states of affairs, both necessary and contingent propositions, it doesn't follow, at any rate just as a matter of logic, that there are *maximal* possible propositions or states of affairs.[7] Perhaps for every possible proposition **p**, there is a possible proposition **q** that properly entails it, but no proposition **q** that for every proposition **p** entails either **p** or its complement. (Or perhaps there are possible propositions or states of affairs that are not properly entailed or included by any propositions or states of affairs, but nonetheless are not maximal.) Further, suppose we agree that there is at least one possible world: it still requires a nontrivial argument to show that for any (temporally invariant) state of affairs or proposition **S**, **S** is possible if and only if there is a possible world that includes or entails it.[8]

According to the modal realist of the second grade, then, for every (possible) temporally invariant proposition or state of affairs there is a possible world in which it is true or obtains. Further, there is one possible world which includes every actual state of affairs[9]; this is the actual world, which I shall call 'alpha'. Alpha alone is actual, although of course all the worlds exist, and indeed *actually* exist. Still further, this vast assemblage of worlds is complete and world invariant: each of the worlds exists necessarily, and there could not have been a world distinct from each of the worlds that does in fact exist. (At any rate so I say; the existentialist[10] would disagree.) We can now make the traditional assertion connecting truth in worlds with modality *de dicto*: a proposition is necessarily true if and only if true in every possible world.

C. Grade Three: Things Have Properties in Worlds

According to the modal realist of the third grade, concrete objects such as you and I have properties in worlds. This isn't as trifling as it sounds. An object **x** has a property **P** in a world **w** if and only if it is not possible that **w** be actual and **x** exist but fail to have **P**—alternatively, if and only if **w** includes **x**'s having **P**. An object's having a property in a world, obviously enough, is no more than a special case of an object's having a property in a proposition or state of affairs, where **x** has **P** in a proposition **A** if and only if it is not possible that **A** be true and **x** exist but fail to have **P**.

But isn't it just obvious and uncontroversial that Socrates, for example, has the property of being wise in the proposition **Socrates is wise**? It isn't obvious and non-controversial, because it isn't uncontroversial that there is such a proposition as **Socrates is wise** (or such a state of affairs as **Socrates' being wise**). More exactly, what isn't uncontroversial is that Socrates and the proposition expressed by 'Socrates is wise' are such that it isn't possible that the second be true and the first fail to be wise. For suppose a view of names like Frege's is true: such a proper name as 'Socrates', on this view, is semantically equivalent to such a definite description as 'the teacher of Plato' or 'the shortest Greek philosopher'. A proper name therefore expresses a property; it expresses such a property as **being the (sole) teacher of Plato** or **being the shortest Greek philosopher**. Such a property, of course, is accidental to Socrates—he could have existed but lacked it. If so, then the proposition expressed

by the sentence 'Socrates is wise' could have been true even if Socrates (the person who actually *is* the teacher of Plato) were not wise, provided there existed someone who was wise and the sole teacher of Plato. If this view of names were correct, then the sentence 'Socrates is wise' would not express a proposition in which Socrates has wisdom. It could be held, more generally, that there are no sentences at all that express a proposition so related to Socrates, and that indeed there aren't any propositions so related to him. To hold this view is to hold that there is no proposition which is *singular* with respect to Socrates; for a proposition is singular with respect to an object **x** only if it is a proposition in which **x** has some property or other. So suppose there aren't any propositions singular with respect to concrete, contingent beings such as you and I: then there are no worlds singular with respect to us, and hence no worlds in which we have properties. On this view, worlds will be *Ramsified*: they will be general propositions or states of affairs specifying that certain properties and relation—certain *qualitative* (as opposed to *quidditative*[11]) properties and relations—are exemplified. Such worlds will specify, for each of us individually and all of us collectively, various roles we could have played; but no world will specify that you or I play a given role. An object **x** has a property **P** in a world, therefore, only if there are propositions singular with respect to **x** and **P**. But clearly if there is a proposition singular with respect to **x**, then there is a world in which **x** has **P**. Objects have properties in worlds, therefore, if and only if there are singular propositions.

Further, objects have properties in worlds if and only if there are *individual essences*: properties essential to an object and essentially unique to that object.[12] First, it is obvious that if an object has an individual essence, then there are worlds in which it has properties. For suppose Socrates has an essence **E**: then there is a proposition and a state of affairs in which Socrates has wisdom: **E and wisdom are coexemplified** and **E's being coexemplified with wisdom**. And then, of course, there would be possible worlds in which Socrates has wisdom: those worlds including the states of affairs or propositions in question. So if there are individual essences, there are also singular propositions.

But it is also easy to see if there are singular propositions, then (given certain plausible assumptions) there are also individual essences. For suppose we know what it is for a proposition to *predicate a property* of an object. A proposition **A** predicates a prop-

erty **P** of an object **x** only if necessarily, if **A** is true then **x** has **P**.[13] Given this notion, we can see that if there are singular propositions, there will also be essences. For consider the singular proposition **Socrates is wise**. This proposition predicates wisdom of Socrates and nothing else. So there is the property **being the person the proposition *Socrates is wise* predicates wisdom of** (or the property **standing to the proposition *Socrates is wise* in the relation in which an object stands to a proposition if and only if the later predicates wisdom of the former**); and this property is an essence of Socrates. Clearly it is *essential* to him: he could not have existed and been such that this proposition did not predicate wisdom of him. But it is also essentially unique to him; there could not have been someone distinct from Socrates who was such that this proposition predicated wisdom of him. It is therefore an essence of Socrates.

According to the modal realist of the third grade, then, objects have properties in worlds. In view of the above equivalences, he might as well have said that there are singular propositions; for objects have properties in worlds if and only if there are singular propositions. Or he might have said that there are individual essences; for objects have properties in worlds if and only if there are individual essences. And given that objects have properties in worlds, we can make the traditional assertions connecting essential property possession with having properties in worlds: an object **x** has a property **P** essentially if and only if **x** has **P** in every world in which **x** exists; **x** has **P** accidentally if and only if **x** has **P** and there is a world in which **x** exists but lacks **P**.

Now suppose we agree that things do in fact have properties in worlds, so that in fact there are individual essences. Then fascinating questions arise: questions I can only mention, not discuss. First: do objects have *qualitative* essences, i.e., essences constructible out of purely qualitative properties? Infinite disjunctions of infinite conjunctions of such properties, perhaps? Second: are there *haecceities*, where a haecceity of an object is the property of being that very object? If so, are haecceities non-qualitative? If they are, will there also be other non-qualitative essences? Third: an unusually interesting alleged special case of individual essences is presented by *unexemplified* individual essences: individual essences that could have been exemplified, but in fact are not. *Existentialists*—such philosophers as Robert Adams [14], Kit Fine[15] and Arthur Prior[16] deny

that there are any such things—although at the high cost of denying one or more of three exceedingly plausible premisses.[17] Singular propositions and quidditative properties, they say, are dependent upon the individuals they involve; so if Socrates had not existed, then the same would have held for this individual essence.

D. Actualism and Serious Actualism

But what about possibilia—i.e., *mere* possibilia? A *possibile* would be a thing that does not exist although it could have; a thing that does not exist in the actual world but does exist in some other world. Should we not add a fourth grade of modal realism, a grade occupied by those who hold that in addition to all the things that exist, there are some more that do not? I doubt it. There is nothing specifically modal about these alleged things that do not exist—or rather there is nothing any more modal about them than about anything else. Anything that does exist is a *possibile*; the claim to fame of these alleged nonexistents is not the modal claim that they possibly exist, but the ontological claim that while indeed there *are* such things, they do not *exist*. I therefore do not believe that we should spend a grade of modal realism on these disorderly elements. The compleat modal realist, however, must take a stand on the question whether there are any such things as mere possibilia. I suggest he reject them as a snare and a delusion and embrace what is sometimes called 'actualism'. Actualism is the view that there neither are nor could have been any entities that do not exist, (where our quantifiers are taken wholly unrestricted). 'Actualism' is not a good name for actualism; it slyly encourages a confusion that is apparently all too attractive on its own demerits: the confusion between actuality and existence. The actualist does not hold that everything is *actual* (he recognizes, of course, that some states of affairs are not actual and some propositions are false); what *he* holds is that everything *exists* (again, quantifier taken unrestrictedly); there are no things that do not exist. But the name seems to have become entrenched, so 'actualism' it shall be. The compleat modal realist, therefore, will be an actualist. There may be more things than are dreamt of in our philosophy, but there aren't more things than all the things that exist; and while there could have been things distinct from each of the things that exist, it does not follow that there are some things that do not exist but could have.[18] What does folow (as I see it) is that

there are some unexemplified essences.

Let us therefore embrace actualism. We can take a further step; we can also embrace *serious* actualism. The serious actualist holds, naturally enough, that everything whatever exists, but he adds that nothing has properties in worlds in which it does not exist. That is, for any world **w**, if Socrates has a property in **w**, then Socrates exists in **w**; for any world **w**, if **w** is such that if it had been actual, then Socrates would have had **P**, then **w** is such that if it had been actual Socrates would have existed. Still another way to put it: Socrates could not have had a property without existing.

On the face of it, serious actualism certainly looks to be *de rigueur* for the actualist. If there could have been no objects that do not exist, how could it be that Socrates should have had some property but not existed? If he had had some property or other, then there would have been such a thing as Socrates, in which case (by actualism) there would have *existed* such a thing as Socrates. Still, there are actualists who deny serious actualism. Kit Fine[19] and John Pollock[20], both sturdy actualists, maintain that Socrates does have properties in worlds in which he does not exist: they say he has *nonexistence*, the complement of existence, in such worlds. We all agree, say they, that there are worlds in which Socrates does not exist; what could be more sensible, then, than to say that in those worlds he has the property of nonexistence? I concede a certain surface plausibility to this opinion; on a closer look, however, we can see, I think, both that serious actualism is a corollary of actualism *tout court*, and that the apparent plausibility of the contary opinion is merely apparent.

First, then, I propose to argue that if actualism is true, then Socrates has neither the property of existence nor the complement of that property in worlds in which he does not exist. My argument has the following two premisses:

> (1) Necessarily, for any property **P**, if **P** is exemplified, then there is something that exemplifies it,

and

> (2) Necessarily, for any property **P**, whatever exemplifies **P** exists.

(1), I take it, is obvious; and (2) is an immediate consequence of actualism. (If, as actualism testifies, necessarily, everything exists, then necessarily, everything that meets any condition exists.) But (1) and

(2) entail

> (3) Necessarily, if nonexistence is exemplified, it is exemplified by something that exists.

Clearly enough, it is impossible that nonexistence (the complement of existence) be exemplified by something that exists; it is therefore impossible that nonexistence be exemplified. So suppose Socrates has a property **P** in a world **w** in which he does not exist: then if **w** had been actual, Socrates would have exemplified **P**. So if **w** had been actual, then either Socrates would have exemplified **P & existence** (the conjunction of **P** with existence) or **P & nonexistence**. He could not have exemplified the later; for if he had, then nonexistence would have been exemplified, and we have seen that this is impossible. Therefore he would have exemplified the former; hence he would have exemplified existence. But then Socrates exemplifies existence in any world in which he exemplifies any property at all, just as the serious actualist claims.

If this is so, however, whence the plausibility of the contrary opinion? Why does it seem no more than common sense to say that Socrates exemplifies nonexistence in worlds in which he does not exist? We can see why as follows. As realists of the third grade, we agree that there are singular propositions. Associated with every property **P**, therefore, is a propositional function: a function whose value, for a given object **x**, is the singular proposition that **x** has **P**. Call these functions *conditions*. Associated with the property **being wise**, then, is a condition that maps an object—Socrates, let's say—onto the proposition that it is wise. Of course there is also the condition that maps Socrates onto the proposition that he is unwise, has the complement of wisdom. But there is also a condition that maps Socrates onto the proposition **it is false that Socrates is wise**—which proposition, according to the serious actualist, is distinct from the proposition **Socrates is unwise**. (The latter proposition is true only in worlds in which Socrates exists and has the complement of wisdom; the former is true in those worlds, but also in the rest of the worlds in which Socrates does not have that property, namely, the worlds in which he does not exist.) So we have four conditions:

x is wise
x is unwise
~(x is wise)

and

~(x is unwise).

The first two of these, says the serious actualist, are *predicative*—i.e., their values, for any object **x** taken as argument, predicate a property of **x**; their values, for Socrates taken as argument, respectively predicate wisdom and unwisdom of him. The second two, on the other hand, are impredicative. Their values, for Socrates taken as argument, do indeed predicate a property (namely, falsehood) of the *propositions* **Socrates is wise** and **Socrates is unwise**; but they predicate no property of Socrates himself. More generally, the value of an impredicative condition for an object **x** predicates no property of **x**, although it may predicate a property of some proposition predicating a property of **x**.

Now perhaps it is plausible to think that properties just are conditions—or at any rate are so intimately connected with them that for each distinct condition there is a distinct property: the property the value of that condition, for a given object **x** taken as argument, predicates of **x**. That is, it is plausible to think that *predicative* conditions are or are intimately connected with properties; as we have seen, says the serious actualist, the value of an impredicative condition, for an object **x** does not predicate a property of **x**. But clearly actualism implies (by the above argument) that no object can satisfy a predicative condition in a world in which it does not exist; thus serious actualism is vindicated.

Now here the actualist opponent of serious actualism (call him a 'frivolous actualist') is not without reply. "Is it so clear," he says, "that such a proposition as **it is false that Socrates is wise** predicates no property of Socrates? True, it predicates falsehood of the proposition **Socrates is wise**; but why should that prevent its also predicating a property of Socrates—the property, perhaps, of being such that the proposition that he is wise is false? But if this is correct, then the conditions you call impredicative are not really impredicative after all; and surely Socrates can satisfy *those* conditions in worlds in which he does not exist. Surely, for example, he can satisfy such conditions as **~(x exists)** and **~(x is wise)** in worlds in which he does not exist; after all, the values of those functions for Socrates taken as argument are true in those worlds."

But here we must pay careful attention to this idea of an object's satisfying a condition in a world—or rather, we must distinguish two

related notions, both of which lurk in this area. On the one hand there is the idea that an object **x** satisfies a condition **C** in a world **w** if and only if necessarily, if **w** had been actual, then **x** would have satisfied **C**. On the other hand, there is the idea that an object **x** satisfies a condition **C** in a world **w** if and only if necessarily, **C(x)** is true in **w**—if and only if, that is, necessarily, if **w** had been actual, then the value of **C** for **x** taken as argument would have been true. We can put these two as follows:

D1 **x** satisfies **C** in **w** iff necessarily, if **w** had been actual, then **x** would have satisfied **C**.

and

D2 **x** satisfies **C** in **w** iff necessarily, **C(x)** is true in **w**.

To mark the difference between these two, let's say that **x** satisfies **C** *in* **w** if **x**, **C** and **w** are related as in D1, and that **x** satisfies **C** *at* **w** if they are related as in D2. Then the thing to see is that if actualism is true, no object satisfies a condition (or has a property) *in* a world in which it does not exist, although an object such as Socrates satisfies a condition such as **~x is wise** *at* worlds in which it does not exist. We can see this via an argument that exactly parallels the argument I gave above (p.197) for the conclusion that Socrates has no properties in worlds in which he does not exist. My premisses are

(4) Necessarily, for any condition **C**, if **C** is satisfied, then there is something that satisfies it

and

(5) Necessarily, for any condition **C**, whatever satisfies **C** exists.

Again, (4) is obvious and (5) follows from actualism. But (4) and (5) together entail

(6) Necessarily, if the condition **~(x exists)** is satisfied, then it is satisfied by something that exists.

The consequent of (6), however, is impossible; it is therefore impossible that **~(x exists)** be satisfied. It may seem a bit bizarre that there are conditions that cannot be satisfied, even though there are worlds at which they are satisfied. This peculiarity is merely verbal, and is due to a quirk in our definition of 'satisfies at'. **C** is indeed satisfied *in* some possible world only if **C** is possibly satisfied; the same can-

not be said for satisfaction *at*.

But now it follows that there is no possible world in which Socrates satisfies **~(x exists)**. For suppose he satisfies that condition in some possible world **w**: then if **w** had been actual, Socrates would have satisfied that condition, in which case it would have been satisfied—which, as we have just seen, is impossible. So if Socrates satisfies **~(x exists)** in **w**, then **w** is not possible after all, contrary to hypothesis. Neither Socrates nor anything else, therefore, satisfies **~(x exists)** *in* any world (although of course Socrates and many other things satisfy **~(x exists)** *at* many possible worlds). And as before we can easily go on to show that Socrates does not satisfy any condition at all in a world in which he does not exist. For suppose Socrates satisfies **C** (= **x is C**) in **w**. Then either Socrates satisfies **x is C & x exists** in **w**, or Socrates satisfies **x is C and ~(x exists)** in **w**. As we have seen, the latter is impossible; hence if Socrates satisfies **C** in **w**, then he also satisfies **x exists** in **w**, in which case he exists in **w**. It is therefore a mistake to think that an object can satisfy any conditions at all, predicative or impredicative, in worlds in which it does not exist. An object satisfies a condition or exemplifies a property in a possible world, therefore, only if it exists in that world, just as the serious actualist claims. Serious actualism, therefore, follows from actualism *simpliciter*; the temptation to think otherwise, I believe, stems from a tendency to confuse *satisfaction at* with *satisfaction in*. It is easy to confuse these two, and this confusion leads immediately to the idea that Socrates satisfies nonexistence in worlds in which he does not exist. The modal realist of the first grade, therefore, holds that individuals in general and propositions in particular have both essential and accidental properties; the modal realist of the second grade adds that there exist possible worlds. According to modal realism of the third grade, objects have properties in worlds—alternatively, objects have essences. The modal realist will also hold, I hope, that there are no things that do not exist, although there could have been things that do not exist in the world that is in fact actual. Finally, since he is an actualist, he should also embrace serious actualism.

II. Modal Reductionism

Suppose you, like (say) W.v. Quine, are a lover of desert landscapes:

you believe in nothing but concrete individuals and set-theoretic constructions on them. Suppose you are also inclined to accept our common modal opinions: you believe that things might have been different in many ways, that if things had been appropriately different, then you would have had some properties that in fact you lack, and that there could have been people distinct from each of the people there actually are. Then you have something of a problem: how to construe these modal facts without recourse to propositions that are true but possibly false, properties an object has accidentally, possible worlds that are merely possible, and essences that are not exemplified. For none of these things seems to fit with the idea that whatever there is, is either a concrete individual or a set.

So what to do? Well, you could *quine* the whole disorderly crew: there simply *are* no essences, possible worlds, properties, propositions, and the like, you say. Serious science, you proclaim, has no place for such unwholesome elements, and you go on to blame a bad upbringing for our powerful tendency to think in modal terms. But there is a more subtle alternative; you could embrace the whole motley menagerie with an outward show of enthusiasm, but seek to introduce order and domesticity by analyzing them in terms of the objects you favor; you could *model* them and their properties in concreta and sets. That is the course taken by David Lewis, whose powerfully subtle modal thought will be my chief example of modal reductionism.

A. Lewis' Modal Theory

Lewis' theory of modality and possible worlds began life as "Counterpart Theory":

> The counterpart relation is our substitute for identity between things in different worlds. Where some would say that you are in several worlds, in which you have somewhat different properties and somewhat different things happen to you, I prefer to say that you are in the actual world and no other, but you have counterparts in several other worlds. Your counterparts resemble you closely in content and context in important respects. They resemble you more closely than do the other things in their worlds. But they are not really you. For each of them is in his own world, and only

> you are here in the actual world. Indeed we might say, speaking casually, that your counterparts are you in other worlds, that they and you are the same; but this sameness is no more a literal identity than the sameness between you today and you tomorrow. It would be better to say that your counterparts are men you would have been, had the world been otherwise.[21]

On this account, you and I exist in just one possible world: the actual world. Now why would Lewis say a thing like that? Why would he thus sharply diverge from the modal realist, who typically holds that each of us exists in many different possible worlds? His answer in "Counterpart Theory and Modal Logic": "P2, the postulate according to which nothing exists in more than one world, serves only to rule out avoidable problems of individuation" (*Op. Cit.* p. 114). We can see a better answer, however, once we see clearly how Lewis thinks of possible worlds. Possible worlds, he says, are spatiotemporally isolated concrete individuals: concrete individuals that are spatiotemporally related only to themselves and their parts. This wasn't entirely clear from his early accounts. Consider this famous passage from *Counterfactuals*:

> I believe that there are possible worlds other than the one we happen to inhabit. If an argument is wanted, it is this. It is uncontroversially true that things might have been otherwise than they are. I believe, and so do you, that things could have been different in countless ways. But what does this mean? Ordinary language permits the paraphrase: there are many ways things could have been besides the way they actually are. On the face of it, this is an existential quantification. It says that there exist many entities of a certain description, to wit 'ways things could have been'. I believe that things could have been different in countless ways; I believe permissible paraphrases of what I believe: taking the paraphrase at its face value, I therefore believe in the existence of entities that might be called 'ways things could have been'. I prefer to call them 'possible worlds'.[22]

This suggestion seems more than compatible with the idea that possible worlds are not concreta, such as you and I and God, but abstracta, like the null set and the number 7. "Ways things could have been",

one might sensibly think, would be properties, perhaps, or possibly propositions, or states of affairs, or other abstracta.[23] But Lewis has recently clarified his view:

> Are there other worlds? I say there are. I advocate a thesis of plurality of worlds, or *modal realism*...that holds that our world is but one world among many. There are countless other worlds, other very inclusive things. Our world consists of us and all our surroundings, however remote in time and space; just as it is one big thing having lesser things as parts, so likewise do other worlds have lesser otherworldly things as parts. The worlds are something like remote planets; except that most of them are much bigger than mere planets and they are not remote. Neither are they nearby. They are not at any spatial distance whatever from here. They are not far in the past or future, nor for that matter near; they are not at any temporal distance at all from now. They are isolated: there are no spatiotemporal relations at all between things that belong to different worlds. Nor does anything that happens at one world cause anything to happen at another.[24]

So worlds are concrete particulars—many of them enormous, but some no larger than a flea. (In fact, some of them *are* fleas; Lewis holds that every concrete particular has a duplicate that is coextensive with its world and hence *is* that world.) Each world, furthermore is *maximal* in the sense that each of its parts is spatiotemporally related to each of its parts and only to its parts. (So suppose we call them 'maximal objects'). Maximal objects, of course, are not individuals that do not exist but could have; each of them exists, all right, although (except for the one of which we are a part) they are not spatiotemporally related to you and me. What we ordinarily refer to as "the universe" is one of these maximal objects; Lewis calls it 'the actual world'. But if possible worlds are maximal objects and you and I are parts of such a maximal object, then it is easy to see a good reason for thinking you and I exist in just one maximal object: if we existed in more than one, then each would be spatiotemporally related to the other (by virtue of sharing us as parts) and hence would not be maximal after all.[25]

So I exist in just one world; how can it be, then, that I have accidental properties? If there is no other world in which I exist, then

for any property I do not have, there is no world in which I have it; so how could I have such a property? Lewis' answer: I possibly have a property if I have a counterpart—someone in this world[26] or another who is sufficiently similar to me—who has it.[27] I am possibly going barefoot today; that is, in some world there is someone who appropriately resembles me and is going barefoot. An object has a property accidentally if and only if it has it and has a counterpart that lacks it; an object has a property essentially if and only if it and all its counterparts have it.

Possible worlds, therefore, are maximal objects. The actual world is the maximal object of which we are parts; other maximal objects and their parts are *possibilia*. On Lewis' view a *possibile* is a concrete individual that is part (or the whole) of a world and spatiotemporally unrelated to us. *Pace* Meinong, Castañeda and Parsons, possibilia are not things that do not exist but could have; instead they are things that exist as solidly as you and I, though (except for our worldmates) at no spatiotemporal distance from us. *Properties* are sets—any sets; and an object *has* a property if and only if it is a member of it. An *individual essence* is the set of some individual and its counterparts. *Propositions* (or states of affairs: Lewis does not distinguish them) are sets of possible worlds: a proposition is *true* if and only if the actual world is a member of it, *possibly true* if and only if it is not empty, *necessary* if and only if it is the set of all possible worlds, and *impossible* if and only if it is the null set. Some propositions, of course, are unit sets; and since some worlds are donkeys or fleas, some propositions are unit sets of donkeys or fleas.

B. Modal Realism?

At first glance Lewis looks like a paradigm modal realist; indeed, Robert Stalnaker and others call him an *extreme* modal realist. Take the first grade of modal realism, the view that there are objects that have both accidental and essential properties. Surely Lewis endorses this view? An object has a property **P** *essentially*, he says, if and only if it is a member of **P** and so are all its counterparts; it has **P** *accidentally* if and only if it is a member of **P** but has a counterpart that is not. He holds that each of us has counterparts that have properties we don't; he also holds that each of us and all our counterparts are members of the universal set of individuals; should we not conclude that on his view objects have properties essentially and ac-

cidentally? Take modality *de dicto*, that special case of the first grade. Lewis holds that among the sets of maximal objects containing the maximal object of which we are a part, some contain fewer than all those objects and some (one) contain them all; shouldn't we conclude that on his view some true propositions are contingent and some necessary? Turn to the second grade of modal realism: don't we find Lewis claiming (indeed, stubbornly insisting) that there are possible worlds? Turn finally to the third grade of modal realism: don't we find Lewis affirming both that there are individual essences (the set of an individual and its counterparts) and that objects have properties in worlds (where an object has a property in a world if and only if it is a member of that property and is part of that world)? So doesn't it follow that Lewis' view is a case of modal realism and a case of realism about possible worlds?

It doesn't follow. Lewis' modal theory is *apparently* realistic; in fact, however, it is not realist at all—or so, at any rate, I shall argue. (Of course this is nothing against the view; nobody says you have to be a modal realist.) Turn first to modality *de dicto*, that special case of modal realism of the first grade according to which some true propositions are contingent and some necessary; and say that a theory is *realist*, if it asserts that indeed there are some things of this sort, *antirealist* if it asserts that there are no such things, and *nonrealist* if it is not realist. I believe Lewis' theory is an example of antirealism here. True enough, Lewis seems to *say* that there are necessary and contingent propositions, but he also says that they are *sets*. There are many contingent propositions; each is a set of maximal objects. There is just one necessary proposition: the set of all the maximal objects; there is just one necessarily false proposition: the null set.

My complaint is not just that on this view there is only one necessary (or necessarily false) proposition, when it is clear that in fact there are many. That is indeed a legitimate complaint: surely a person could know that $2 + 1 = 3$ even if he does not know that arithmetic is incomplete or that Goldbach's conjecture is true (if it is) or that there is such a person as God. This complaint is legitimate; but if it is multiplicity we want, Lewis is prepared to oblige. He has other set-theoretic constructions on offer to "play the role" of propositions, and among them are some with as much multiplicity as you please (57). But my complaint comes right at the beginning and is both much more obvious and much more radical: sets, as we all know, are not the sort of things that can be true or false at all. You

are teaching a course in set theory. The first day an agressive but confused student demands to know your view of the null set: is it true, he asks, or is it false? He adds (a bit truculantly) that in his opinion it is clearly false. Your reply, appropriately enough, is that it is neither; sets aren't the sort of things that can be either true or false. When this student claims that the null set is false, what he says is obviously mistaken; and isn't that claim obviously mistaken, even if made, not by confused student, but by first-rate philosopher?

Perhaps Lewis' reply to this line of argument would go as follows: that there *are* such things as propositions—i.e., the things that are true or false and can be believed and disbelieved—that is a matter of common opinion and something we all know pretheoretically. But we don't know pretheoretically what these things are like, or what their nature is: *that* is a matter, not for common opinion, but for the theoretician.[28] (Perhaps Lewis would say here, as he does in another context, that "if naive intuition claims to decide such a recondite matter, we ought to tell it to hold its tongue" (246)). Here theory is under little pressure from common opinion or pretheoretical knowledge. But then no theory can be anti-realistic with respect to propositions just by saying that propositions are sets (or by attributing to them any other kind of nature).

Clearly this is partly right: there is much about the nature of propositions we don't pretheoretically know. Are they, as some have thought, sentences in some very large powerful language? Are they instead, as Augustine and the bulk of the medieval tradition insist, divine thoughts? Do they have an internal structure? Do they have properties as constituents? Do they have concrete objects as constituents? Are there singular propositions? Lewis is right; we don't pretheoretically know the answer to these questions. But we do know *something* about the nature of propositions, prior to theory. (By virtue of this pretheoretical knowledge we know, for example, that propositions couldn't be sentences of English or German.) Conceivably they could turn out to be idealized sentences or divine thoughts; but they couldn't turn out to be just *anything*—donkeys, or fleas, or tables[29], for example. We know that no propositions are donkeys, and we know that none are fleas. We know that no one believes fleas or donkeys (and not because of a depressing tendency on their parts to prevaricate).

Now on Lewis' view, no propositions are donkeys or fleas (although some possible worlds are); but some of them—uncountably many of

them—are unit sets of donkeys and fleas. I say this is something we pretheoretically know to be false. Even as we can see that a proposition can't be a donkey or a flea, so we can see that a proposition can't be the unit set of a flea, or any other set of fleas or donkeys, or other livestock—or a set of concrete objects of any sort. You can't believe a set, and a set can't be either true or false. The problem, fundamentally, is that sets, like donkeys, obviously lack the relevant intentional properties—the intentional properties propositions have. A set is neither a claim nor anything like a claim; it doesn't represent its members or anything else as being thus and so; it neither is nor makes a claim as to what things are like.[30] The unit set of a donkey, for example, doesn't represent its member as being a donkey, or a nondonkey, or anything else; it is mute on that topic, as on every other. It certainly doesn't represent things as being such that there are no horses and that all pigs can fly, as it would, on Lewis' theory, if its member were a maximal object. On Lewis' theory, the null set is the impossible proposition. (If it is necessary that there be a null set, then the null set, on his view, is the proposition that there is no null set!) But why say it is *that* proposition? If the null set is a proposition, why couldn't it be a necessary proposition, or any other proposition? I say it is obvious that the null set isn't any proposition at all. It isn't the claim that there are married bachelors or that $3 + 1 = 7$ or that there is no such thing as the null set; nor is it the denial of these claims. A set isn't a claim; it no more represents things as being a certain way than an elephant has subsets. On Lewis' view there are concrete *possibilia* and sets and nothing else[31]; but if so then on his view there are no propositions at all, and hence none that are necessary or contingent. I therefore believe that Lewis' therory is nonrealistic and indeed antirealistic with respect to this special case of modal realism of the first grade.

Now suppose we turn to the more general thesis of modal realism of the first grade: the claim that objects have properties both essentially and accidentally. Is this true, on Lewis' theory? Is it true, on Lewis' view, that Socrates could have had the property of being foolish? Of course he endorses the words 'Socrates could have had the property of being foolish'; on his theory this sentence is true, expresses a truth. But my assertively and sincerely uttering or writing the sentence 'There are X's' is insufficient for my holding that there are X's, as is my theory's assigning truth to this sentence. Perhaps, for example, I use the words involved in such a way that they do

not in fact express the proposition in question. Compare the ultraliberal theologian who says that on his theory there is indeed such a person as God, all right—the sentence 'There is a God' expresses a truth—but there are no supernatural beings, and as he uses the word 'God' it denotes the "evolutionary-historical" process that has brought us into being. [32] That theologian's theory, in all probability, is not realistic with respect to God.

On Lewis' theory, then: do individuals have accidental properties? According to the theory, you have counterparts who are members of sets you are not a member of; and this is offered as an analysis of your having some properties accidentally. But is the analysis correct? Suppose there exists a person who is very much like you and is a member of some set you are not a member of: is that so much as *relevant* to your possibly having some property? It is hard to see how. On the face of it, there being a foolish person who is otherwise a great deal like Socrates has nothing whatever to do with the question whether Socrates could have been foolish. Surely it is not relevantly sufficient for Socrates' being possibly foolish; and the fact, if it is a fact, that this person is spatiotemporally unrelated to us and Socrates doesn't help. Nor, of course, is it necessary; even if everyone (even those, if any, who inhabit maximal objects distinct from ours) were wise, it would still be the case that Socrates could have been foolish. The existence of other maximal objects and counterparts who are members of sets I am not a member of is clearly irrelevant to the phenomena of modality. Surely I could have been barefoot even if everyone, even those in other maximal objects if there are any, were wearing shoes. Surely the proposed analysis is incorrect; it flouts the obvious pretheoretical truth that what is a possibility for me does not depend in this way upon the existence and character of other concrete objects.

Lewis sees his theory as "disagreeing with firm common sense opinion" (133) especially with respect to his ontology—that uncountable magnitude of donkeys spatiotemporally unrelated to us, and those more than uncountably many maximal objects. Firm common sense opinion is indeed incredulous here; there is no reason, pretheoretically, to believe that there is more than one maximal object; and considerable pretheoretical impulse to be at least agnostic about the matter. The idea that there are more than uncountably many of them, therefore, seems a great deal to swallow. Still, common opinion tends to be agnostic here, and could perhaps be convinced by enough of

the right sort of evidence. (A traditional theist will be harder to convince; from his point of view there couldn't be all those donkeys spatiotemporally unrelated to us. Say that **x** has been *created** by God if either **x** has been created by God or has been created by something that has been created* by God. According to the traditional theist, it is a necessary truth that every nondivine concrete particular has been created* by God. All the donkeys there are, accordingly, are causally related to God. But (necessarily) things causally related to the same thing are causally related to each other; so there couldn't be any concrete paticulars that are causally unrelated to you and me). Where firm common opinion sticks in its heels is at the claim that it is *necessary* that there be all those donkeys and maximal objects. It seems clearly *possible* that there be at most one maximal object and only finitely many donkeys; and it is possible that all the donkeys there are be spatiotemporally related to us.

The idea that there are more than uncountably many donkeys and maximal objects is therefore problematic. But the real problem, from a modal point of view, is not with *that* idea but with the claim that a thing possibly has a property if and only if it has a counterpart that has the property. Perhaps I do indeed have a counterpart who can talk French; but clearly enough even if I don't, it is still possible that I talk French. Counterparts, concrete objects spatiotemporally unrelated to us, other maximal objects—these are all quite irrelevant to modality.

Still, even if this analysis is incorrect it does not follow that Lewis' theory is either nonrealistic or antirealistic with respect to objects that have properties essentially and accidentally; and that, after all, is the question at issue. (Even if my analysis of causation is incorrect, it does not follow that I do not believe in causation.) Nevertheless Lewis' theory, if taken at face value, is (as I see it) a radical rejection of essential and accidental property possession; on his theory, no objects have properties accidentally or essentially. The reason, fundamentally, is that on this theory there are no such things as properties at all. Lewis takes a property to be a set—in the first instance a set of all its this- and other-worldly members; but if we aren't satisfied with *those* sets in the role of properties, he has others on offer (pp. 56-59). But clearly enough, properties are *not* sets. As Lewis sees things, we know pretheoretically that there are such things as properties—at any rate we firmly believe that there are entities that deserve the name—but (as in the case of propositions) we don't

pretheoretically know much of anything about their nature. And indeed there *is* much we don't know about them. But we do know *something* about their nature, and enough to see that they could not be sets. Take, for example, the property of being a donkey, which Lewis proposes to identify with the set of donkeys (this- or other-worldly donkeys). *That* set, clearly enough, could not have been empty; it could not have been the null set. (Had there been no donkeys, that set would not have existed.) But the property of being a donkey could have been unexemplified; obviously there could have been no donkeys at all, here or on any other maximal object, if there are any others. Donkeyhood is contingently exemplified; the set of donkeys (since there are some donkeys) is esentially nonempty; hence the property of being a donkey is not the set of donkeys.[33] Of course Lewis can *get the effect* on contingency in his model; some but not all maximal objects **w** are such that the set of donkeys-in-**w** is empty. But how does this help? The set of donkeys—i.e., the set of all donkeys—still has a property donkeyhood lacks; hence the former is distinct from the latter. So I say it is obvious that properties are not sets. It is obvious that no property is the unit set of a donkey, or a larger set of donkeys, or any other set of animals or concreta (It is obvious that no properties are sets; but I must concede that it is not *as* obvious as that no propositions are sets.) But if it is obvious that no property is a set, then Lewis' theory is a rejection of modal realism of the first grade.

I turn now to the second grade of modal realism: the claim that there are possible worlds. How does Lewis' theory stand with respect to this claim? Are there any such things, on his theory? I think not. (Of course there are the things he *calls* possible worlds—at any rate there is *one* such thing.) First, it is clear, I think, that the phrase 'possible world' is philosopher's talk for something like 'way things could have been', or better, 'total way things could have been'. (And so the use of 'world' in 'possible world' is quite different from its use in e.g., 'God created the world.'[34]) Now this pretheoretical idea of a way things could have been (like the ideas of proposition and property) pretheoretically displays a certain indefiniteness: a way things could have been could be a state of affairs, perhaps, or a property, or a proposition or perhaps even (cardinality problems aside) a set of propositions or states of affairs. But could possible worlds, ways things could have been, turn out to be maximal objects? It is hard to see how. There are at least two central and obvious characteristics

of possible worlds (or total ways things could have been). First, they are such that if there is at least one object that has a property accidentally, then it follows that there are at least two possible worlds; if there are **n** properties such that I could have had any combination of those properties, then there are at least $2^{\mathbf{n}}$ possible worlds. Second, possible worlds are such that if there is at least one contingent proposition, it follows that there are at least two possible worlds; more generally, if there are at least **n** appropriately independent propositions then there are at least $2^{\mathbf{n}}$ possible worlds. Not so for maximal objects. If it is possible that there be more than one maximal object (and perhaps it isn't), it will be a contingent matter just how many there are in fact; there could be two, or six, or (less likely) countably infinitely many. (Could there be at least 2^c, as Lewis' theory requires?) But what is more important in the present context is this: the number of maximal objects, unlike the number of possible worlds, is independent of the number of logically independent propositions (and independent of the number of combinations of properties I could have had). There are objects that have properties contingently and propositions that are contingent; and that is true no matter how many maximal objects there are. I have the property of wearing shoes accidentally; the proposition **Paul is over six feet tall** is contingent; and this is so even if, as most of us believe, there is only one maximal object. So possible worlds can't be maximal objects.[35] Lewis' Theory, then, is not a realism with respect to possible worlds.

Still further, this theory, I think, is an *antirealism* with respect to possible worlds. Like propositions, possible worlds have that intentional property: a possible world is such that things are thus and so *according to* it; a possible world *represents* things as being a certain way. But no concrete object or set theoretic construction does a thing like that. So if all there are are concrete individuals and set-theoretic constructions on them, then there are no possible worlds. On Lewis' ontology that is all there are; so on his theory there are no possible worlds; so Lewis' theory is an example of antirealism with respect to possible worlds. Suppose someone says: "On my theory there is another universe causally and spatiotemporally discontinuous with the universe we see around us. This universe contains duplicates of some of us, and things similar to others of us. But all the objects in either that universe or ours or anywhere else are concrete particular or set-theoretic constructions therefrom." Then on that person's theory there are no possible worlds, and adding more maximal ob-

jects won't help. So I believe Lewis' theory is antirealist about possible worlds. But if so, then on this theory it is not the case that objects have properties in worlds; so Lewis' theory is an antirealism of the third grade as well as of the second and the first. The just conclusion, I think, is that Lewis is about as much a modal realist as is W. v. Quine. (Let me hasten to add, once more, that this is no denigration of his views; nobody claims modal realism is *de rigueur* for modal theorists. I mean only to correct what I see as widespread misunderstanding.)

Of course there is *something* in the neighborhood with respect to which Lewis is a realist, and a pretty unusual and interesting thing at that: a plurality of maximal objects. Like Quine, he prefers desert landscapes: concrete objects and sets. Lewis' desert, however, with its 2^c or more spatiotemporally isolated maximal objects, is both more extensive and less continuous than Quine's. Lewis is certainly a realist of an interesting kind; but what he isn't is a *modal* realist. On his theory, as I see it, there are no propositions, states of affairs, possible worlds, essences or objects with essential and accidental properties; what there are instead are concrete objects and set theoretical constructions on them, some of which play roles formally similar to the roles in fact played by the phenomena of modality if the modal realist is right.

C. Lewis and Modal Reductionism

Lewis seems to say some puzzling things: that among the propositions there are some that are unit sets of donkeys, that the property of being a donkey is a set of this- and other-worldly donkeys, and that I could have been going barefoot now only if there is someone sufficiently like me who is going barefot now. These are things I said we know are false. Why, then, would Lewis say them? He seems to say puzzling things: what is most puzzling is that he should say them. But perhaps he isn't really saying them; perhaps there is something more subtle going on. (It's not entirely easy to see just what Lewis' project really is; but I shall do my best.) First, Lewis is a modal *reductionist*: He offers reductive analyses of the phenomena of modality: he reduces possible worlds to maximal objects, propositions and states of affairs to sets of maximal objects, essences to sets of concrete objects, and essential and accidental property possession to similarity and set membership.

There are at least two kinds of philosophical analysis: *reductive* and *explicative*. The explicative analyst gives analyses of the sort G.E. Moore said could not be given of goodness: he tries to penetrate a concept we already have, to discern the structure of such a concept, to resolve it into its components (if any), and to show the relations in which those components stand.[36] The late lamented analysis of knowledge as justified true belief is of this sort. The *reductive* analyst, however, is stalking different game. One who reduces propositions to sets does not claim that when we reflect on our common concept of propositions, what we see is that propositions after all are really sets, or that the concept of propositions is really the same concept as that of a certain sort of set. Instead, he proposes what from the point of view of that common concept is a *substitute*; the whole point of his analysis is to provide a substitute for the suspect entities, thereby thinking perhaps, to reduce commitment to questionable ontology.

There are at least two kinds of reductive analyses: ontological and semantical. The first kind tells us that there really are such things as A's, but (contrary to what we might have thought) they are really B's: there are such things as houses and horses, but in fact they are really congeries of sense data; there are such things as mental states, but in fact each mental state is identical with some neurological state; there really are such things as propositions, but in fact they are sets of maximal objects. He then uses the relevant terms—'proposition', 'true', and the like—in their ordinary and established ways, and may seem to say quite outrageous things: that some sets are true, that some are necessarily true, that the null set represents Frege as a married bachelor, that the null set is necessarily false, and that Frege believed the null set until Russell showed him the error of his ways. But Lewis' analyses are not like this. He does not tell us that there really are such things as propositions and properties, and that *what* they really are are sets: "All this is a matter of fitting suitable entities to the various rather ill-defined roles that we rather indecisively associate with various familiar names. Don't think of it as a matter of discovering which entities *really are* the states of affairs, or the ways things might be, or the possibilities, or the propositions, or the structures!"

The *semantical* reductionist, by contrast, uses the relevant terms in a nonstandard way. By 'proposition' he might just *mean* 'set of maximal objects'; and by 'is true' he might mean 'has the maximal

object of which we are parts as a member'.[37] Sometimes it looks as if this is the course Lewis takes: "Not everyone means the same thing by the word 'proposition'. I mean a set of possible worlds, a region of logical space. Others mean something more like a sentence, something with indexicality and syntactic structure, but taken in abstraction from any particular language." ... "The word "property" is also used in many senses. I mean a set: the set of exactly those possible beings, actual or not, that have the property in question."[38] A semantical reductionist doesn't claim that propositions are sets; since by 'proposition' he means sets of maximal objects, when he says "propositions are sets of maximal objects" what he asserts is what the rest of us assert when we say "sets of maximal objects are sets of maximal objects". Then he doesn't really assert such peculiar items as that propositions are sets of maximal objects or that the property of being a donkey is the set of this and other worldly donkeys.

Is Lewis a semantical reductionist? I'm not quite sure. What is clearer, I think, is that he proposes *models*. He models our modal talk, or thought, or the modal phenomena in set-theoretic constructions on concrete individuals; he proposes models whose domains of interpretation contain only the sorts of entities of which he approves. He offers us semantics for our modal discourse, semantical systems that have recourse only to the sorts of things he believes in. Lewis thinks there are various *roles* associated with such words as 'proposition', 'property', 'state of affairs', 'possibility', and the like (and not just the roles of denoting the propositions, properties, states of affairs, possibilities, and the like); and the job of analysis or theory is to find the things that best fill these roles:

> 'Property', and the rest, are names associated in the first instance with roles in our thought. It is a firm commitment of common sense that there are some entities or other that play the roles and deserve the names, but our practical mastery of uses of the names does not prove that we have much notion what manner of entities those are. That is a question for theorists. I believe in properties. That is, I have my candidates for entities to play the role and deserve the name. My principle candidates are sets of possible individuals. (But I can offer you alternatives—other set-theoretic constructions out of possible individuals—to suit different versions of the role.)(189)

And (speaking of states of affairs and ways things might be):

> I suppose it is a firm commitment of common sense that there are some entities or other that fill the roles, and therefore deserve the names. But that is not to say that we have much notion of what sort of entities those are. We can toss the names around and never think what manner of entities we are talking about. Only when we want to improve on common sense and get something more systematic and unified and definite, does the question arise. The entities that deserve the names are the entities best suited to fill the roles. To figure out what those are, we must survey the candidates according to our best systematic theory of what there is. It's no good saying: which are they? Why they are the states of affairs! (185)

(To the question "Who shall play Polonius?", says Lewis, it's not good replying, "Why, Polonius, of course!").

Lewis *takes* properties to be certain sets; he *identifies* properties with those sets, in something like the way in which one might take the number 1 to be the unit set of the null set: "I identify propositions with certain properties: namely with those that are instantiated only by entire possible worlds" (50). To take properties or propositions to be sets is to endorse those sets as suited to play the relevant role:

> If we believe in possible worlds and individuals, and if we believe in set-theoretic constructions out of things we believe in, then we have entities suited to play the role of properties.
>
> The simplest plan is to take a property just as the set of all its instances—*all* of them, this- and other-worldly alike. Thus the property of being a donkey comes out as the set of all donkeys, the donkeys of other worlds along with the donkeys of ours.

Further, there may be several versions of the property role among which our use of the relevant terms does not make a choice. Thus we can't sensibly ask, for example, whether two properties are ever necessarily coextensive. We must recognize instead that the word has become associated with a variety of subtly different roles:

> Here there is a rift in our talk of properties, and we simply have two different conceptions. It's not as if we have fixed once and for all, in some perfectly definite and unequivocal way, on the things we call 'the properties', so that now we are ready to enter into debate about such questions as, for instance, whether two of them are ever necessarily coextensive. Rather, we have the word 'property' introduced by way of a varied repertory of ordinary and philosophical uses. To deserve the name of 'property' is to be suited to play the right theoretical role: or better, to be one of a class of entities which together are suited to play the right role collectively. But it is wrong to speak of *the* role associated with the word 'property' as if it were fully and uncontroversially settled. It comes in many versions, differing in a number of ways. The question worth asking is: which entities, if any, among those we should believe in, can occupy which versions of the property role? (55)

Lewis models our modal thought and talk in concrete objects and set theoretical constructions therefrom. There are several different models on offer: the proposition **Sam is happy** could be a set of worlds, for example; but it could also be a pair set consisting of Sam and a property; and of course there are many other possibilities. There is something that represents *de re* of me that I am Fred: we can take Fred himself as the thing that does so (232). (Under a weaker counterpart relation there are things that represent me as being a poached egg: we can take the poached eggs to be those things.) What isn't wholly clear, however, is just what Lewis, qua theoretician, proposes to *do* with these models.[39] There they are: all those different models in which different things play the role of a given proposition or property. We are not to ask which really *is* that proposition or property; no model is endorsed to the exclusion of the others; all are acceptable, although some are more suitable for some purposes than for others. If you think there is only one necessary and one impossible proposition, there is an appropriate model; if what you want is multiplicity (many necessary propositions), that is easily arranged; if you think that concrete objects such as you and I are constituents of propositions, that too is no problem: there is a model to fit.

Now I find this puzzling. I'm not sure what claim, if any, is being made about propositions, properties, states of affairs, possibilities,

and their like. But perhaps at any rate the following is clear. Lewis accepts what he calls the common opinion that indeed there are such things as propositions, properties, etc. He adds, however, that common opinion has no definite idea as to what these things are; this is up for theoretical grabs; so far as what we pretheoretically know, is concerned these things could be any of the objects presented by the proposed models.

But is this really true? Indeed there are those roles of which Lewis speaks; but aren't they accompanied by much fuller stage directions—e.g., no proposition can be played by a set—than he supposes? Alternatively, don't we know a lot more about what fills them than he supposes? Do we have only those roles Lewis speaks of, so that it is up to theory to say what fills them? Or do we also know something about the sorts of things that occupy them—e.g., that no proposition is the unit set of a donkey, or any larger sets of donkeys, or indeed any set at all? The modal realist—my kind of modal realist—says there are such things as proposition, properties, worlds and their like. We know that these things play certain roles, sure enough; but we know more about them than that. We know, e.g., that they are not sets—although there might be interesting isomorphisms between propositions and certain set-theoretic structures, isomorphisms from which we can learn about propositions, even if we know that propositions aren't sets. We know that neither Paul nor any poached egg[40] can represent of me that I am Paul or a poached egg, although there are models of modality in which Paul or a poached egg could play the role of such a representer—models from which we may be able to learn something important about representation.

So I am not quite sure what Lewis' theory says about propositions and their like. But this much seems reasonably clear: according to this theory, any propositions (or property) you pick is at any rate some set or other. And *if* this is so, then I say his theory is antirealistic about these things.

It's Lewis concretism that is to blame—his view that all there are are concrete individuals and sets (and perhaps also immanent universals or tropes). For there are obvious truths which together with this claim entail that there are no propositions, properties, or possible worlds. It is not that concretism *as such* is incompatible with modal realism. According to another, more moderate if vaguer version of concretism, there are indeed such nonconcreta as propositions, prop-

erties, numbers, sets, states of affairs, possible worlds and so on; but all of them must somehow be rooted in or dependent upon concrete objects. Sets, for example, are ontologically dependent upon their members; had Paul Zwier failed to exist, then so would his unit set. (Perhaps sets are also and essentially *collections*—as Cantor thought—and thus dependent upon some kind of collecting activity on the part of some individuals or other.) Propositions depend for their existence upon concrete thinkers: propositions, perhaps, just *are* thoughts (and even that allegedly arch-Platonist Frege called them *Gedanken*); and properties, perhaps, just are concepts. This view is open to obvious and crushing objection if the thinkers involved are *human* thinkers: for then there are far too many propositions and properties. Of course there is no problem here for the Augustinian view according to which propositions are *divine* thoughts (and properties divine concepts). Some might think explaining propositions as God's thought is at best a case of *obscurum per obscurius* (58).

But one man's cost is another man's benefit; if you already accept or are inclined to accept theism, then this suggestion may seem not just acceptable, but compelling.

D. Two Objections

(1) "You say Lewis is not a modal realist; but *he* says he is. And isn't he the authority on his own theory? Who are you to say that this theory is anti-realistic if he says it isn't?"

Reply: similar questions are regularly debated in theology. Someone might claim that according to his theory Christ indeed arose from the dead; what this means he says, is that the disciples "had an experience of forgiveness, which they expressed in categories of resurrection." It remains a question whether on his theory Christ arose from the dead. He assertively writes and utters such sentences as 'Christ arose from the dead'; on his theory, that sentence expresses a truth; but it doesn't follow that on his theory Christ arose from the dead. An even more liberal theologian might say: "Certainly on my theory there is such a person as God: when I say that, what I mean is that I face the Future with confidence."[41] It remains a question on his theory whether there is such a person as God. Consider a paradigm nominalist: he says that there are no universals, properties, or kinds; he adds that the role the realist thinks is played by such things is in fact played by utterances or inscriptions of words

of natural languages. Such a nominalist is a reductionist with respect to universals; he is also an antirealist with respect to them. (Never mind whether his reduction is successful or not.) Compare this nominalist with someone who claims to be a realist with respect to universals but adds that universals are really inscriptions or utterances of words of natural language; that, he says, is what their nature is. This person's ontology, I suggest, is indistinguishable from the paradigm nominalist's views, despite his realist claims and aspirations. Claiming royalty at the font doesn't automatically confer sovereignty; claiming to be a realist with respect to universals is insufficient for being one. Suppose someone says he believes in elephants: only on his theory, he says, elephants are really numbers—numbers equal to the sum of their proper divisors. He adds that there are no material objects. Then according to his theory there are no elephants, despite his assertively writing or uttering "On my theory there are elephants, only as it happens they are perfect numbers." Lewis says he believes in the phenomena of modality—propositions, properties and the like:

> I believe in properties. That is, I have my candidates for entities to play the role and deserve the name. My principal candidates are sets of possible individuals. (But I can offer you alternatives .....)"(p.189)

No doubt there are indeed set-theoretic constructions on individuals that can play the role of properties (or propositions) in one or another model of our modal talk; but saying so, I submit, is not sufficient for being a realist with respect to properties (or propositions).

(2) "In arguing that Lewis is a modal anti-realist, you employ premisses that he doesn't accept—such premisses, for example, as the claim that no set can be believed, that no set is a claim or an assertion, that no set represents anything as being thus and so, and that no set could be true or false. But Lewis accepts none of these premisses; so you can't properly employ them to determine the commitments of his theory."

Reply: the question is how to tell what a theory is committed to: what premisses and arguments forms can be used along with what a theory explicitly asserts to reach propositions to which that theory is committed? This is a delicate question. Suppose my theory does not contain a given premise: does that show that it is not committed to any conclusion that can be derived from what it explicitly says

only with the help of that premise? I don't think so. Consider someone with a theory according to which, oddly enough, there are two uniquely tallest men. You point out that according to his theory, there is more than one uniquely tallest human being; he demurs, replying that on his theory it is not true that two is greater than one. His theory is nonetheless committed, I think, to the proposition that there is more than one uniquely tallest human being. Suppose my theory contains **p** and also **if p then q**; then it is committed to **q**, even if I claim that *modus ponens* is no part of my theory. Return to the ultra-liberal theologian—a peculiarly rigid follower of Bultmann, for example—according to whose theory there is no person who is perfect in knowledge and power and who has created the worlds; in fact there are only material objects and no supernatural beings at all. We characterize his theory as atheism, i.e., anti-realism with respect to God. "Not at all," he says; "on my theory, to accept belief in God is to adopt a certain attitude or policy: it is to resolve to accept and embrace one's finitude, giving up the futile attempt to build hedges and walls against guilt, failure, and death." He adds that he rejects the premiss that any theory according to which there are only material objects and no supernatural beings is an atheist theory. The fact is, I think, that his theory is atheist, whether or not he accepts those premisses. (In the case of this theologian (and some of the others), there is a certain evasiveness, a certain deplorable deceptiveness, a certain lack of candor. No such thing characterizes Lewis' views; quite the contrary: Lewis is wholly forthright as to what it is he thinks.) In each of these cases, it is quite proper to use a premise not included in the theory in question in order to determine what that theory is committed to. I say the same goes with respect to the premisses that no sets predicate properties of objects, or represent things as being thus and so, or are true or false, or are assertions, or are believed. So I think it is quite proper to use these premisses to determine the commitments of Lewis' modal theory, even if he does not accept those premisses.

Of course the question what a theory is committed to is delicate. Let **T** be a theory: and suppose **T** entails (i.e., strictly implies) that there are no X's. It doesn't follow that according to **T** there are no X's. For perhaps **T** contains some false (and hence necessarily false) mathematics; it wouldn't follow that according to **T** there are no possible worlds, despite the fact that **T** entails that there are no possible worlds (as well as that there are some). Suppose **T** attributes to X's

a property **P** such that every X has the complement of **P** essentially, or a property **Q** such that it is impossible that there be X's that have **Q**; or suppose there is some property **R** such that it is necessary that X's have **R** essentially and such that according to **T** nothing has **R**: it still doesn't follow that **T** is antirealist with respect to X's. Surely I could have a mistaken theory about quarks: a theory according to which there are such things as quarks and according to which quarks have a property **P** such that in fact it is a necessary truth that all quarks have ~**P** essentially. Then my theory attributes to quarks a property **P** such that every quark has the complement of **P** essentially; it also attributes to quarks a property such that it is impossible that there be any quarks that have that property; and there is a property **R**—namely, **being a quark not having P**—such that it is necessary that quarks have this property essentially, while according to my theory nothing has this property. But it doesn't follow that my theory is anti-realist with respect to quarks. Suppose it is a necessary truth that every contingent object has essentially the property of having been created* by God; [42] and suppose someone's theory asserts that human beings have not been created* by God. It doesn't follow that on the theory in question there are no human beings.

On the other hand, as we have already seen, **T**'s (or **T**'s expression) containing a sentence like 'There are X's' is not sufficient for **T**'s being realistic with respect to X's (or even for its not being antirealistic with respect to X's). Still further, even if **T** asserts that according to **T** there are X's, it doesn't follow that according to **T** there are X's. A person might say that on his theory there are angels; it does not follow that on his theory there are angels. For if he goes on to say that on his theory angels are cats (and thinks of cats no differently from the rest of us), then it is not the case that his theory asserts that there are angels.

This question, therefore—the question just what a theory is committed to—is both vexed and delicate. What is it that determines which premises can be used in conjunction with what a theory explicitly asserts to reach propositions to which that theory is committed? I think it's a matter of *obviousness*; wholly obvious propositions can be used in that fashion. Of course there are problems here (problems I don't have the space to enter). We must remember Kreisel's dictum: "it ain't obvious what's obvious"; and to whom must the propositions be obvious? and since obviousness is a matter of

degree, does it follow that commitment of a theory to a proposition is a matter of degree? I shall save these questions for another time and turn to a different objection. I say it is obvious that, e.g., no set represents anything as being thus and so; but is that really obvious, or better, is it relevantly obvious? According to some, there is theory, and then there is data, or evidence, or the appearances (the appearances a theory must save). A semantic theory such as Lewis' is accountable to the data—but not of course to other semantic theories.[43] The data are our linguistic intuitions as to which sentences express truths: "Our intuitive judgments, made 'upon reflection' after we have assured ourselves of the nonlinguistic fact, of what is true and what implies what, are the appearances that a semantic theory must save" (*Ibid.*, p.320). On this view, a satisfactory theory will assign the right truth values to the sentences; but if it turns out, on the theory, that these sentences express propositions quite different from the ones we thought they did, that is nothing against it[44] Further, the relevantly obvious truths, the ones we can properly use along with what a theory explicitly asserts to determine what the theory is committed to, are just those nontheoretical truths of linguistic intuition.

Now Lewis (sensibly enough) endorses no such facile bifurcation of theory and linguistic intuition:

> There is no sharp line between sacrosanct intuition and freewheeling theory. We start where we are—where else?—with a stock of initial opinions, and we try to rework them into something better Any revision of previous theory counts as some cost. But some of our opinions are firmer and less negotiable than others. And some are more naive and less theoretical than others. And there seems to be some tendency for the more theoretical ones to be more negotiable (241).

Among our firm opinions in this area are our "linguistic intuitions" to the effect that certain sentences—such sentences as 'Socrates could have been foolish'—do indeed express truths. Quite right. But aren't some of the "more theoretical" claims equally obvious? Clearly enough, 'Socrates could have been foolish' expresses a truth; but isn't it nearly as obvious that the truth it expresses does not require that Socrates have a foolish counterpart? Isn't it equally obvious that the truth in question is not a set of maximal objects, or of other con-

crete objects, or indeed a set of any kind at all? Isn't it equally obvious that no proposition is the unit set of a donkey, or the null set? Lewis once said he found it hard to believe that he and all his surroundings were a set of sentences.[45] That seems fair enough; but is it much easier to believe that the proposition **7 + 5 = 13**, say, or **there is no God** (if you are a classical theist) or **there is no null set** (if you are not) is really the null set? Or to believe that uncountably many propositions are unit sets of fleas or donkeys? I doubt it. And the same holds, I think, for the other premisses I used to argue that Lewis' view is not a case of modal realism. (I must concede that some of these propositions are more obvious than others; it is clearer that Lewis' view is antirealistic with respect to propositions than with respect to properties, and clearer with respect to properties than with respect to possible worlds.) But even if I am wrong, even if the existence of these obvious truths is not sufficient for the theory's being antirealist, the most important point still remains: the theory in conjunction with obvious truths obviously entails modal antirealism of all grades.

E. Concluding Reflection

Although Lewis proposes semantical reductionist models for our modal discourse, it is less than clear that he is a semantical reductionist, because it isn't clear what it is he proposes that we do with these models. Still, his theory has some affinities with semantical reductionism, and in conclusion I wish to say briefly why I think semantical reductive analysis is unhopeful. For what is the point of the project? One begins with an ontological conviction—that all there are are concrete particulars and set theoretic constructions on them, perhaps. This conviction seems hard to square with common opinion, (including one's own opinion) about truths and falsehoods, properties, possibilities, and the like. One hopes to remedy the situation by giving the semantical reductive analysis in question. But how does the analysis help? Offering a semantical analysis does little to respect common opinion; for it preserves the sentences typically used to express common opinion, but not the opinion they express. It is common opinion that some propositions are true and other false, and that I could have been wearing my other shoes. The reductionist respects these *sentences*; they come out true on his analysis. But in his mouth what the first means is that some sets of maximal objects

include the maximal object of which we are parts and some do not; and what the second means is that there exists (quantifier taken broadly) someone sufficiently like me who is wearing his other shoes. Clearly these are not the common opinions commonly expressed in the sentences he endorses; while he speaks with the vulgar, he thinks with the learned, and his agreement with common opinion is a merely verbal agreement. If divergence from common opinion is costly, semantical analysis does little to help.[46]

Insofar as he is concerned with divergence from common opinion, from what we all know or believe, the reductive analyst faces a dilemma. On the one hand, he can propose his theory as the sober metaphysical truth: there are possible worlds and they are maximal concrete objects; there are such things as propositions, and they are sets of maximal concrete objects. But these suggestions, of course, are wholly at variance with common opinion, according to which no possible worlds are donkeys (or other concreta) and no propositions are sets of concreta. On the other hand, he can propose a semantical analysis: he can assign a meaning to the relevant sentences—the sentences expressing common opinion about truth and modality—by way of a semantics whose domain of interpretation includes only objects of the sorts he approves of. The semantics then assigns propositions to these sentences, and when he affirms the sentences he affirms those propositions. Then, however, he winds up respecting not common opinion, but only the words in which common opinion is commonly expressed.

At the beginning of section II I said that one who believes only in sets and concreta has at least two options: on the one hand, she can quine what doesn't seem to fit, and on the other she can give a reductive analysis of these things. I implied that the second was subtler than the first. Perhaps it is; but so far as flouting what we pretheoretically know or believe is concerned, there is little real difference between them. The first, futhermore, is more straightforward, more conducive to clarity of thought than the second, at least if the reductive analysis in question is a semantical analysis. Return once more to the hyper-liberal theologian who insists that on his theory there is such a person as God all right, even though there are no supernatural beings: for the word 'God', as he uses it, he says, denotes the evolutionary-historical process (or perhaps "the forces not ourselves that make for goodness"). Suppose such a theologian goes on to model the rest of what theists ordinarily say in nonsupernatural

beings: he doesn't share their belief that there is such a person as God, even though on his theory the words 'There is such a person as God' express a truth. His opinion differs from that of the plainspeaking atheist only by virtue of being less plainly spoken. Something similar goes for the semantical reductionist.[47] One who quines the modal phenomena rejects both common opinion and the sentence in which it is expressed; the semantical reductionist endorses the sentences but rejects the opinions. From the point of view of modal realism, it is hard to see a significant difference.

By way of conclusion then: the modal realist believes in necessary and contingent truths, object with essential and accidental properties, and individual essences. He will also, I hope, accept actualism; and if actualism, then serious actualism. By contrast the modal reductionist, whatever the virtues of his views, is not a modal realist at all.[48]

Notes

1. Modal phenomena are not, of course, to be contrasted with modal noumena; my use of the term is Platonic, not Kantian.
2. See my "How to be an Anti-Realist", *Proceedings of the American Philosophical Association*, Vol. 56, pp. 47-49.
3. According to the classical theist, every proposition is *in fact* (and, indeed, *necessarily*) believed or disbelieved—by God, who is a necessary being and essentially omniscient.
4. See my *The Nature of Necessity* (Oxford: At the Clarendon Press, 1974), p.2.
5. *Op. Cit.* pp. 2-9
6. See "Self- Profile" in *Alvin Plantinga*, ed. James Tomberlin and Peter van Inwagen (Dordrecht: D. Reidel Publishing Co., 1985) (hereafter "*Profiles*") p. 90-91 and John Pollock's "Plantinga on Possible Worlds" (Op. Cit.) p. 122.
7. See Pollock, *Op cit.* pp. 121-126, and my reply in "Replies to my Colleagues" in *Profiles* (hereafter "Replies") pp. 327-329.
8. *Loc. Cit.*
9. Given a proposition (or state of affairs) **P**, there will typically be several distinct propositions (or states of affairs) equivalent to it; in the interests of brevity I ignore the question whether this also holds for possible worlds.
10. See my "On Existentialism", *Philosophical Studies* 1983 (Vol. 44) pp. 1-20; see also Pollock, *Op. Cit.*, pp. 134-140 and my reply (Replies, pp. 324-427).
11. See "On Existentialism" p.2.
12. Examples of such properties would be **being Socrates, being identical with this very thing** (I am referring to the number 7), and such

world-indexed properties unique to an object as **being the first dog to be born at sea in alpha**. (For more about world-indexed properties, see *The Nature of Necessity* pp. 62-65.)

13. This condition is necessary but not sufficient. The proposition **7 is prime** predicates primeness of the number 7; it does not predicate primeness of the number 5, despite the equivalence, in the broadly logical sense, of **7 is prime** and **5 is prime.** The proposition **Socrates is wise** predicates wisdom of Socrates and does not predicate **being prime** of 7, despite its equivalence, in the broadly logical sense to **Socrates is wise and 7 is prime**.
14. See, for example, "Theories of Actuality" in *The Possible and the Actual* ed. by Michael Loux (Ithaca: Cornell University Press, 1976) and "Actualism and Thisness", *Synthese* (49) 1981.
15. See his Postscript in A.N. Prior and Kit Fine, *Worlds Times and Selves* (Amherst: University of Massachusetts Press, 1977, and "Plantinga on the Reduction of Possibilist Discourse" in *Profiles*.
16. See, for example, "Modal Logic and the Logic of Applicability" and "Supplement to 'Modal Logic and the Logic of Applicability'" in *Worlds Times and Selves* and "The Possibly True and the Possible" in *Papers in Logic and Ethics* (Amherst: University of Massachusetts Press, 1976).
17. See "On Existentialism", pp. 9-20 and "Replies" pp. 340-349.
18. See my "Actualism and Possible Worlds" (*Theoria* 42 (1976)) p. 160; reprinted in Loux, *The Possible and the Actual*, p. 272.
19. See "Plantinga on the Reduction of Possibilist Discourse" in *Profiles*, pp. 165-171.
20. *Ibid.* pp. 126-130.
21. "Counterpart Theory and Quantified Modal Logic", *Journal of Philosophy*, 1968, pp. 114-115. (Reprinted with postscript in Lewis: *Philosophical Papers*, (Oxford: Oxford University Press, 1983).
22. *Counterfactuals*, (Cambridge, Mass.: Harvard University Press, 1973), p.84.
23. As I assumed in discussing Lewis' views in *The Nature of Necessity* pp. 102-114.
24. *On the Plurality of Worlds* (Oxford: Basil Blackwell Ltd., 1986), p.2. (Hereafter "*Plurality*"; unless otherwise noted, page references in the text will be to this work.)
25. There is a more detailed account of Lewis' conception of possible worlds in Peter van Inwagen's "Two Concepts of Possible Worlds" (*Midwest Studies in Philosophy*, XI, 1986 pp. 185-192) along with powerful criticism of this conception.
26. In *Plurality* as opposed to "Counterpart Theory and Modal Logic" Lewis allows that an object may have a counterpart in its own world.
27. A complication we may here ignore: Lewis holds that here are different counterpart relations appropriate to different contexts, so that an object may be my counterpart under one but not another of them.
28. "'Property', and the rest/e.g., 'proposition'—AP/, are names associated in the first instance with roles in our thought. It is a firm commitment of common sense that there are some entities or other that play the

roles and deserve the names, but our practical mastery of uses of the names does not prove that we have much notion what manner of entities those are. That is a question for theorists." (Plurality, 189)

29. According to Richard Cartwright, "Moore is reported to have once had a nightmare in which he was unable to distinguish propositions from tables" ("Propositions" in R.J. Butler, ed, *Analytical Philosophy* (New York: Barnes & Noble,, Inc., 1962) p. 103).
30. Lewis, of course, would disagree; indeed, he suggests that a concrete object—another person, e.g.—can represent me as being thus and so; it can represent me as being *it*: "It is not some other world, differing haecceitistically from ours, which represent *de re* of me that I am Fred; it is Fred himself, situated as he is within our world" (232).
31. But things are not quite so simple; Lewis speaks of individuals and set-theoretic constructions on them as the things he is "most committed to"; and he is also sympathetic to the idea that there are immanent universals or tropes (but presumably not both) (64-69).
32. Gordon Kaufman, *Theology for a Nuclear Age* (Manchester: Manchester University Press, 1985) p. 43. (Of course I don't mean to suggest any real kinship between Lewis' thought and contemporary liberal theology.)
33. Strictly speaking, this argument requires the additional (and uncontroversial) premise that if the property of being a donkey is the set of donkeys, then the set of donkeys is essentially nonempty only if the property of being a donkey is essentially exemplified.
34. See footnote 4 of van Inwagen's "Two Concepts of Possible Worlds".
35. Purists may wish to state the above argument, not in terms of possible worlds and maximal objects, but in terms of the properties **being a possible world** and **being a maximal object**.
36. See Ernest Sosa's "Classical Analysis", *Journal of Philosophy*, v. LXXX, No 11 (November, 1983).
37. G. E. Moore in "A Defense of Common Sense" (*Philosophical Papers* (London: George Allen and Unwin Ltd., 1959) p. 36): "Some philosophers use the expression 'The earth has existed for many years past' to express, not what it would ordinarily be understood to express, but the proposition that some proposition, related to this in a certain way, is true; when all the time they believe that the proposition, which this expression would ordinarily be understood to express, is, at least partially, false."
38. "Attitudes *de dicto* and *de se*," *Philosophical Papers* I p. 134-135. (On Lewis' view not everything that has properties is a *possibile* (for example, sets, or the mereological sum of a couple of maximal objects, or of parts of a couple of such objects); in *Plurality* he therefore takes properties to be sets of any kind, not just sets of possibilia.
39. And hence it is not clear to me whether or not he is what above I called a *semantical* reductionist.
40. Nor any set theoretical construction on concrete individuals. Objection: "you say that no concrete objects or sets have that intentional property you attribute to propositions and states of affairs: the property of representing things as being thus and so, of being a thing **x** such that

according to **x** things stand thus and so. But isn't this clearly mistaken? Surely *sentences of natural languages* are true or false, and thus such that according to them things stand a certain way; and sentences are sets: sets of sounds or shapes. Furthermore, sentences aren't the only things that represent: a scale model of the *Titanic*, for example, can represent it as having four smokestacks, and a topographical map of the North Cascades can represent Mt. Baker as being more than 10,700 feet high."

Reply: stipulate for purposes of argument that sentences are sets. The important point is that a sentence *in itself* does not have any such intentional property at all; rather sentences are *used* by speakers and writers to *express* the things that do have the relevant intentional property. The sequence of shapes "Socrates is wise" does not represent Socrates as being wise; instead, speakers of English use that sequence of shapes to express the proposition that Socrates is wise. Similarly for maps and models; the map doesn't (except in a derivative sense) represent Mt. Baker as being more than 10,700 feet high; instead, the *cartographer* uses the map to make that representation, i.e., to communicate that proposition. Similarly for models: an object that looks like a small *Titanic* isn't *in itself* any claim at all as to what the *Titanic* is like; but if I assert that it is a scale model of that ship, then *I* use it to make claims or assertions about what the *Titanic* is like—I use it, that is, to express propositions.

41. He might say something even more exciting: "God is the name of that center which is everywhere, but it is everywhere only by being nowhere where it is only itself, and therefore nowhere in the absence or silence of consciousness or speech." Thomas J.J. Altizer, "History as Apocalypse" in *Deconstruction in Theology* by Thomas J.J. Altizer, Max A. Myers, Carl A. Raschke, Robert P. Scharlemann, Mark C., Taylor, and Charles E. Winquist (New York: the Crossroad Publishing Co., 1982) p. 155.
42. See above, pp. 210.
43. See. e.g., Allen Hazen, "Counterpart-theoretic Semantics for Modal Logic" in *Journal of Philosophy*, vol. 76 (1979) p. 323.
44. "...what Plantinga disparages as a merely verbal agreement about the truth value of the sentence 'Socrates could have been unwise' is the only agreement that can be demanded from the counterpart theorist: it is the only agreement that matters. Our logical intuition about such sentences of our ordinary modal language are the evidence that both Plantinga and the counterpart theorist must appeal to and explain. What proposition is expressed by such a sentence...is a matter of theory..." *Loc Cit.* p. 323.
45. *Counterfactuals*, p. 86.
46. As Lewis suggests in a different context (247), it may still do *something*. Perhaps it is more obvious that the words 'there could have been nothing that had the property of being a donkey' express a truth than that it is false that the proposition expressed by those words is really the proposition that there are maximal objects in which there are no members of the set of this- and otherworldly donkeys; then to claim the latter is less outrageous than to deny the former.)

47. Again, I do not mean for a moment to suggest that semantical reductionism shares the devious and deplorably deceptive character sometimes attaching to such theology.
48. I take this opportunity to record my gratitude to many—in particular David Lewis, Peter van Inwagen, Philip Quinn, Del Ratzsch, Nicholas Wolterstorff and the members of the Calvin Colloquium—for stimulating discussion and incisive criticism. I should also like again to call attention to van Inwagen's penetrating discussion of allied matters in "Two Concepts of Possible Worlds" (above, note 25).

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