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In Defense of the New Actualism: Dispositional Modal Truthmakers and the Branching Conception of Possibility

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IN DEFENSE OF THE NEW ACTUALISM:
DISPOSITIONAL MODAL TRUTHMAKERS AND THE BRANCHING
CONCEPTION OF POSSIBILITY

by

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This thesis entitled:
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Branching Conception of Possibility
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has been approved by the Department of Philosophy

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Date _____

The final copy of this thesis has been examined by the signatories, and we
find that both the content and the form meet acceptable presentation standards
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Vance, Chad (Ph.D., Philosophy)

In Defense of the New Actualism: Dispositional Modal Truthmakers and the Branching
Conception of Possibility

Thesis directed by Professor Graeme Forbes

Abstract: You could be going for a walk right now. This seems true—but what *makes* it true?
Here is a popular answer: It is true that you could be going for a walk right now because
there exists some possible world (beyond the actual world) where you *are* going for a walk
now; or else, because there is some abstract, representational entity which *represents* you as
going for a walk now. I think this is mistaken. I take a more common-sense approach,
arguing instead that the modal truths (i.e., truths about metaphysical possibility and
necessity) are made true by the *capabilities*, or *dispositional properties*, of actual objects. For
instance, in the case just stated, it is true that you could be going for a walk right now so long
as you have the *capacity* to do so.

In light of this conclusion, I then argue for three related ones: (1) First, an essential property
of each individual is its unique origin. For instance, the table in front of me, which originated
from a particular hunk of pine wood, could not have originated from, say, a block of ice.
(2) Second, metaphysical possibility is just a unique species of *de re* modality, such that the
metaphysical possibilities are just the ways *this world* could be. (3) Finally, an essential
property of the actual world is its unique origin, such that all of the metaphysical possibilities
must share some initial, causally potent entity or entities in common. In short, either some
causally potent necessary being exists—e.g., God—or else there is necessarily an actual
infinite number of contingent beings; namely, a beginningless series of contingent causes.

CONTENTS

IN DEFENSE OF THE NEW ACTUALISM: DISPOSITIONAL MODAL TRUTHMAKERS AND THE BRANCHING CONCEPTION OF POSSIBILITY

INTRODUCTION

There are truths. <Vance exists> is one of them. But, *why* is this true? What *makes* it true? The answer seems apparent: *I* am the reason that the proposition is true (me, the concrete object typing this). I, we might say, am the *truthmaker* for that proposition. Because I exist, <Vance exists> is true. But, there are some truths that are very difficult to find suitable truthmakers for. For instance, <I could have been a truck driver>. This is a truth about what is *possible*. We call this a modal truth. What makes modal truths true? It is the goal of the present work to answer that question. [1]

Here is a popular answer: <I could have been a truck driver> is true because there is some other concrete world, beyond the actual world, where I *am* a truck driver (or rather, someone who looks a lot like me is; some "counterpart" of mine). Or else, <I could have been a truck driver is true because there exists some representational entity which *represents* me as driving a truck. I think these answers are wrong. My own thesis is one that is not likely to be that surprising to non-philosophers: I will argue that what is possible is just whatever can be *causally brought about*. For instance, <I could have been a truck driver> is true because, at some time in my existence, I possessed the *causal capability to have become a truck driver*.

The structure of this work will be as follows:

Chapter One: Some things could have been different: I could have been a truck driver; Germany could have won the war; the universe could have expanded more quickly. These are some of the other *ways things could be*; i.e., they are some of the *metaphysical possibilities*. In the first chapter, I lay out desiderata for an analysis of metaphysical possibility, and then distinguish that variety of possibility from two others (logical and nomological). Next, I introduce the notions of possible worlds, truthmakers, and in particular *modal* truthmakers, and then provide an exhaustive list of five mutually exclusive positions regarding the *nature* of modal truthmakers.

Chapter Two: There are no unicorns. This makes me very sad, because it is true. But, what *makes* it true? An absence? Absences aren't *things*, though. There doesn't seem to be *any* thing which makes that proposition true (i.e., it seems to lack a *truthmaker*). In light of the difficulty of finding suitable truthmakers for these sorts of negative truths, many have rejected that theory called *truthmaker maximalism* (the thesis that *all* truths have truthmakers). In chapter two, I begin by carefully distinguishing the notion of truthmakers from truth conditions and analyses (two closely related terms). I then provide a defense of truthmaker maximalism.

Chapter Three: In chapter three, I provide a systematic refutation of four of the five possible views regarding the nature of modal truthmakers. I then argue that only the entities proposed by the *fifth* view—i.e., that view which states that the modal truthmakers are actual, non-ersatz entities—is suited to the task of modal truthmaking. Finally, I argue that any actual, non-ersatz ground of true modal propositions must be causal in nature.

Chapter Four: I will then spend the remaining chapters exploring the implications of the conclusion reached in the first three chapters. I will begin by arguing for what I call the General Overlap Requirement—i.e., the requirement that each of the metaphysical possibilities must have in its domain at least one actual, causally potent entity. This gives rise to a branching conception of modality, where all of the possibilities are branches that diverge from some point of the actual

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world. I will argue that these branches diverge in one direction only—namely, forward—to the effect that all of the metaphysical possibilities must share some initial, causally potent entity or entities in common. In short, I will argue that either some causally potent necessary being exists—e.g., God—or else there is necessarily a beginningless series of contingent causes.

Chapter Five: In chapter five, I will argue that an essential property of each individual is its unique origin. For instance, the table in front of me, which originated from a particular hunk of pine wood, could not have originated from, say, a block of ice. I provide a defense of the necessity of origin by offering a solution to its primary criticism: the recycling problem. This is roughly the problem that arises in cases where an individual's original material is recycled in order to form a second, duplicate origin. Such duplications are problematic, since each origin must be a unique event if it is to be the criterion of individuation for some particular individual. Furthermore, the leading response to this problem—predecessor essentialism, or the thesis that origins have ordinal properties essentially—is an unsatisfactory one. I will propose an alternative solution—causal-historical essentialism, or the thesis that origins have certain causal properties essentially.

Chapter Six: Next, I argue that metaphysical possibility in general takes a branching structure very similar to that of the structure of *de re* possibilities for individuals. For instance, when considering what you could possibly have been doing at this very moment, we hold the timeline of your life more or less fixed until a few moments ago, and consider the various forking paths that you could have taken, given your abilities. I argue that possibility has this structure, not just for you, but for the world as a whole, such that metaphysical possibility is really just a unique species of *de re* modality.

Chapter Seven: Finally, I offer some concluding, summative remarks before providing a brief overview of how my proposed view would work *in practice*.

CHAPTER ONE

POSSIBILITY, WORLDS, AND MODAL TRUTH

Introduction

Some things could have been different: I could have been a truck driver; Germany could have won the war; the universe could have expanded more quickly. Now, some of the things that could have been different would have resulted in a world not very unlike the one that exists now—for instance, if I had become a truck driver, the world would go on much as it presently does. I would have a few different memories, and different friends and so on, but most everything else would be the same. On the other hand, some of the things that could have been different would have resulted in a world *very much* unlike the one that exists now—for instance, if the universe had expanded more quickly, there would have been no stars or planets *at all*. Still, there is something intuitively plausible in the assertions that things could have been different in all of those ways.

Yet, it also seems that *some things could not have been* different: The sum of 2 and 3 could not have been 7; circles could not have had four sides; perhaps it is even the case that there could not have been nothing at all. Again, there is something intuitively plausible in the assertion that things could not have been different in any of those ways. But, this is simply to say that we have an intuitive grasp of the modal notions of *possibility* and *necessity*. Our general grasp of these notions may be established easily enough, but a precise definition of the terms "possible" and "necessary" is a matter of some debate among philosophers. Three varieties of possibility, though, are commonly cited, and these are: Logical possibility, nomological possibility, and metaphysical possibility.

In section 1 of this chapter, I will examine each of these varieties of possibility in detail. In §2 I will then take a closer look at metaphysical possibility, and argue that it is narrower in scope than logical possibility; that is, I will argue that some of the logical possibilities are not metaphysical possibilities. This will require a discussion of *a posteriori* necessities, in which I will ask the question of whether or not there are any "interesting" metaphysical necessities—i.e., metaphysically necessary truths which are necessary in virtue of some fact about the deeper structure of our world, and not simply in virtue of their analyticity. Finally, in §3 and §4 I will briefly introduce possible worlds and truthmaking, and then carve out an exhaustive list of all of the positions which one could hold regarding the nature of each.

1 The Varieties of Possibility

1.1 Logical Possibility

1.1.1 Broad Versus Narrow Logical Possibility

Roughly, something is a logical possibility if it does not yield an inconsistency. Logical possibility is sometimes divided into two sub-categories, typically called *narrow* and *broad*. I will follow Alvin Plantinga's use of these two terms, which are given as follows. Of the narrow sense: Something is logically impossible in the *narrow* sense if it is not consistent with the logical truths. For instance, it is narrowly logically impossible for propositions such as <If all men are mortal and Socrates is a man, then Socrates is mortal> to be false, since, if such a proposition *were* false, it would be inconsistent with modus ponens.[2] Similarly, it is impossible in this sense for propositions such as <Anything red is red> to be false, since their negation would violate the law of identity.[3]

Of the broad sense: Something is logically impossible in the *broad* sense if it is not consistent with the conceptual truths. For instance, it is broadly logically impossible for propositions such as

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[2] Plantinga (1974), 1-2.

[3] Fine (2002), 254.

<If a thing is red, then it is colored> or <Nothing is both entirely red and entirely green> to be false.[4][5] One might think of the difference between broad and narrow logical necessities in the following way: Whereas the negation of *narrow* logical necessities yields an *immediate* inconsistency, the negation of *broad* logical necessities only yields an inconsistency *after analysis*. For instance, the inconsistency yielded by the proposition <A ≠ A> is immediate, but it is only after we analyze the predicate "red"—and discover, for instance, that our concept of redness entails that anything red be colored—that the proposition <A is both red and non-colored> yields an inconsistency. In short, the narrow category of logical possibility rules out inconsistencies based on logical considerations alone, while the broad category rules out inconsistencies based on both logical *and* semantic-conceptual considerations.

1.1.2 On the Disagreement About Terms in the Literature

There is a tremendous disagreement regarding how these various terms are used in the philosophical literature. George Bealer, for instance, calls the narrow category *logical consistency* rather

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[4] The former is from Plantinga, and the latter is from Fine.

[5] Of course, it is debatable whether or not "being entirely red" entails "*not* being entirely green". Kit Fine has suggested that "nothing is both red and green" may be a *conceptual* truth; i.e., one that is "given by the *definitions* of the various concepts." (2002: 254-255). If there *is* such an entailment, then <A is both entirely red and entirely green> is indeed a broad logical impossibility.

If, on the other hand, there is no such entailment, then <A is entirely red and entirely green> is *possible* in the broad logical sense (since it does not yield an inconsistency even after analysis of the terms or concepts), though perhaps it is still *metaphysically* impossible. (see below for more on metaphysical possibility)

Though an incredibly contentious topic, the claim that propositions such as <Nothing can be both red and green> are logically necessary does not seem to me to be all that interesting. One might raise the accusation that, clearly, something can instantiate two determinates under the same determinable—for instance, since it is conceivable that something produces two different pitches simultaneously. (Fales 1982: 30) But, this misses the point. True, a child can apply the red crayon to an entire figure in her coloring book, and then apply the green crayon, thus making the figure *both red and green*, but this is not the sort of scenario that the above logical necessity is meant to rule out—as is evidenced by the opponent who will quickly point out, "No, I mean she colors the book so that it is *only* red and *only* green" when told the crayon story.

I contend that propositions such as <A is both color X and color Y> or <A produces both pitch X and pitch Y> should be analyzed as being directly inconsistent with other obvious logical necessities such as <If something is colored, it cannot be both *only* color X and simultaneously *not only* color X> or <If something produces a sound, it cannot produce both *only* pitch X and simultaneously *not only* pitch X>.

But, if interpreted this way, then the claim that <Nothing can be both red and green> is not very interesting. It turns out to be no more interesting than claiming that <Nothing can be both circular and red> is logically necessary (under one interpretation) because it yields a direct inconsistency with the obvious logical necessity <If something instantiates some property, it cannot both instantiate *only* property X and simultaneously *not only* instantiate property X>.

than *narrow logical possibility*, and the broad category *logical possibility* simpliciter rather than *broad logical possibility*. Narrow logical possibility, Bealer points out, merely rules out whatever is internally inconsistent, such as <This object is both red and not red>. But *consistency*, he insists, is not a variety of *possibility*. In support of this claim, he reminds us that "There are many logically consistent sentences that express obvious impossibilities (e.g., 'Bachelors are necessarily women' . . . [etc.])."[6]

Peter van Inwagen jettisons both species of logical possibility altogether, stating that "there is no such thing as logical possibility – not, at least, if it is really supposed to be a species of possibility."[7] He criticizes the method by which states of affairs are alleged to be logically possible: Often, logical possibility is cast in terms of logical *im*possibility, such that, if we cannot derive an inconsistency from something, we conclude that it is possible. But, he points out, "It hardly follows that, because a certain thing cannot be proved to be impossible by a certain method, it is therefore possible in any sense of 'possible' whatever."[8] His motivation for rejecting *broad* logical possibility as a species of possibility, then, is much the same as Bealer's motivation for rejecting *narrow* logical possibility; for, both claim to reject those brands of possibility because "consistent" does not seem to be what we mean by the term "possible".

Why then does Bealer reject only *narrow* logical possibility as a viable species of possibility, while van Inwagen rejects both the narrow *and* the broad categories? The difference, I think, has to do with their differing beliefs regarding whether or not metaphysical possibility is a variety of possibility distinct from broad or narrow logical possibility.[9] Van Inwagen claims that it *is* distinct, and that it is *metaphysical* possibility which captures our normal use of the term "possible". Meanwhile, Bealer denies the distinction, claiming that, if there is such a thing as "metaphysical" possibility, it is

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[6] Bealer (2002), 79.

[7] van Inwagen (1998), 71.

[8] Ibid.

[9] I will discuss the problem of whether or not to identify metaphysical possibility with logical possibility below.

identical to what he calls "logical possibility" simpliciter (i.e., what we have here called *broad* logical possibility).

The different use of terms between Bealer and van Inwagen is just the tip of the iceberg. There are a great many other names given to the two categories of logical possibility stated above. For instance, Sider calls the narrow category "analytic possibility,"[10] while Gendler and Hawthorne refer to it as "logical possibility" simpliciter.[11] Meanwhile, Sider refers to the *broad* category as "logical possibility" simpliciter, while others—adding even more to the confusion of terms—use the term "metaphysical possibility" interchangeably with "broad logical possibility" (e.g., David Chalmers).[12] To clarify the usage of terms, below I have included a sampling of the various labels that have been given to our two categories of logical possibility in the literature:

	P is Consistent With The Logical Truths
Alvin Plantinga	P is narrowly logically possible
Gendler & Hawthorne	P is logically possible
Ted Sider	P is an analytic possibility
George Bealer	P is consistent (where "consistent" does not entail "possible")
Peter van Inwagen	P is consistent (where "consistent" does not entail "possible")

	P is Consistent With The Semantic-Conceptual Truths
Alvin Plantinga	P is broadly logically possible
Ted Sider	P is logically possible
David Chalmers	P is metaphysically possible
George Bealer	P is possible
Peter van Inwagen	P is consistent (where "consistent" does not entail "possible")

Here, I will use the term "logical possibility" simpliciter to refer to that which is logically possible in both the broad *and* the narrow sense, unless otherwise specified. Whenever specified otherwise, I will use Plantinga's terms.

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[10] Sider (2003), 193.

[11] Gendler and Hawthorne (2002b), 5.

[12] Chalmers (1996), 38.

1.2 Nomological Possibility

Roughly, something is nomologically possible if it is consistent with the laws of the actual world, which are taken as fixed. Faster-than-light-speed travel is nomologically impossible, for instance, since the physical laws of the actual world preclude this. Traveling five miles an hour, on the other hand, is perfectly consistent with those laws. As far as I am aware, there is no debate or variation in usage of the term "nomological possibility".

1.3 Metaphysical Possibility

As we saw above, some identify metaphysical possibility with logical possibility. Others claim it is a variety of possibility distinct from both logical and nomological possibility. Regardless, most agree on the following: Roughly, something is metaphysically possible if it is (or is included in) a *way things could be*. Many think that the consistent (i.e. logically possible) scenarios *just are* the way things could be—but others contend that there are deep metaphysical truths about the world which make it such that this is not the case. They claim that metaphysical possibility is *narrower* than (broad) logical possibility, such that not every logically possible scenario is a way things could be.

Therefore, if metaphysical possibility turns out to be a variety of possibility that is distinct from, and narrower in scope than, either variety of logical possibility, it will be because there are certain metaphysical truths *in addition to* the logical and semantic-conceptual truths which are inconsistent with some scenarios. In sum, we have four potentially viable varieties of possibility:

Four Varieties of Possibility

(1) *Narrow Logical Possibility* – Consistent with the logical truths
(2) *Broad Logical Possibility* – Consistent with the logical + semantic-conceptual truths
(3) *Metaphysical Possibility* – Consistent with the logical + semantic-conceptual + metaphysical truths
(4) *Nomological Possibility* – Consistent with the logical + semantic-conceptual + metaphysical + actual-law truths

2 Logical Possibility ≠ Metaphysical Possibility

2.1 Introduction

For those who think that the (semantically and conceptually) consistent scenarios *just are* the ways things could be will identify broad logical possibility with metaphysical possibility. That is, they will maintain that the metaphysical truths *just are* the logical and semantic-conceptual truths. A number of philosophers endorse this view. Kit Fine states that "logical necessity in the broad sense … is sometimes called 'metaphysical necessity'"[13] and then endorses this identification. Bealer, as we have seen, agrees with this view (which he attributes to Saul Kripke), and writes, "according to this standard philosophical usage, p is possible iff p is logically possible iff p is metaphysically possible …"[14] David Chalmers also endorses this identification, writing that "the metaphysically possible worlds are just the logically possible worlds …"[15] David Lewis too suggests that the metaphysical possibilities are just the ones that are logically consistent. He argues that, to every logically consistent scenario, there corresponds a metaphysically possible *world*, such that "the worlds are abundant, and logical space is somehow complete. There are no gaps in logical space."[16]

Others, however, have embraced a more restricted account of metaphysical possibility, claiming that some of these consistent scenarios are *not* "ways things could be". For instance, the scenario where space is merely relational rather than a substance does not appear to be an internally inconsistent one; that is, neither the logical truths nor the truths derived via an analysis of the concept of space are inconsistent with this scenario. And yet, substantivalists claim that this scenario is metaphysically impossible, since all of the ways things could be are ones where space is a substance. For the substantivalist, there is some deep fact about the world itself—rather than the

[13] Fine (2002), 254.

[14] Bealer (2002), 78.

[15] Chalmers (1996), 38.

[16] Lewis (1986), section 1.8.

mere logical or conceptual truths—which precludes the possibility of relational space; i.e., the possibility of relational space is precluded by the *metaphysical* truths. This stance (that some deeper truths about reality place further restrictions upon what is possible beyond those restrictions of mere logical and conceptual consistency) is also very popular among anti-Humeans, who argue for governing laws or dispositions.[17] Theists often endorse this view as well, since they typically believe in a God who could not have failed to exist (though his non-existence does not yield a logical or semantic-conceptual inconsistency). For instance, van Inwagen endorses this view of God. Ted Sider also agrees that "Metaphysical possibility is narrower than logical and analytical possibility, but exactly how much narrower is unclear."[18] In the next section, I will argue for this conclusion that metaphysical possibility is narrower than either variety of logical possibility (meanwhile, answering Sider's question of *how much narrower* is the subject of this entire work).

2.2 A Posteriori Necessities ≠ Linguistic Convention

2.2.1 □ <Water = H₂O>

Those who defend the claim that metaphysical possibility is narrower than logical possibility typically argue that there are some *a posteriori* necessities. Thus, this position is rooted in the work of Saul Kripke.[19] He argued that <Water = H_2O> is metaphysically necessary—such that a scenario where water is not H_2O is not one of the "ways things could be"—and yet, the negation of this

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[17] Here are a few examples:
   Law Theorists
   (1) "A statement can be metaphysically necessary without being conceptually necessary, and without being logically necessary." Shoemaker (1998), 60
   (2) The "laws of nature are metaphysically necessary relations between properties …" Swoyer (1982), 222.
   Dispositional theorists
   (3) "[I] am happy to accept that there are metaphysical necessities that are not logical necessities …" Handfield (2008), 124.
   (4) "Not every logically possible state of affairs will turn out to be metaphysically possible." Borghini and Williams (2008), 37.

[18] Sider (2003), 193.

[19] Kripke (1980), especially 100-105.

proposition does not yield a logical, semantic, or conceptual inconsistency. Surely $<\text{Water} \neq H_2O>$ does not yield a logical inconsistency. But, neither does it yield a semantic inconsistency. The term 'water' does not *mean* 'H$_2$O', since we were using the term 'water' long before the discovery of water's molecular structure. So, the proposition is not logically necessary (in either the broad or the narrow sense). And yet, it seems impossible for water to be composed of anything else; for, quite simply, if it were made of anything else *it would not be water*. Kripke concluded from this that there are certain necessary truths which are true, not in virtue of logical or semantic-conceptual considerations, but rather because of some *deeper metaphysical truths about the structure of the world*—structures that are not known *a priori* but rather discovered *a posteriori*. He called these *a posteriori* necessities "*metaphysical*" necessities.

2.2.2 Against □ <Water = H₂O>

One might attempt to disagree with Kripke's assessment of the proposition $<\text{Water} = H_2O>$, claiming (contrary to Kripke) that this proposition *is* logically necessary. The negation of this proposition is logically impossible, one might argue, since 'water' *just means* 'H$_2$O'. Thus, Kripkean *a posteriori* necessities are not indicators of some deeper metaphysical truths about reality; rather, they are merely indicators of our linguistic conventions. Kripke mentions this objection as follows:

> Was it necessary or contingent that Nixon won the election? … [T]his is a contingent property of Nixon only relative to our referring to him as 'Nixon' (assuming 'Nixon' doesn't mean 'the man who won the election at such and such a time'). But if we designate Nixon as 'the man who won the election in 1968', then it will be a necessary truth, of course, that the man who won the election in 1968, won the election in 1968.[20]

Here, whether or not Nixon's victory in the 1968 election is a contingent matter depends upon what we *mean* by Nixon. If 'Nixon' just *means* 'the man who won the 1968 election', then <Nixon won the 1968 election> is true of logical necessity. This outcome relies on the axiom,

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[20] Kripke (1980), 40. See also the sections where he discusses whether or not <Aristotle was the teacher of Alexander> or <Hitler [was] the man who succeeded in having more Jews killed than anyone else managed to do in history> are necessary truths (61, 74-77).

<a=b→□a=b>, and the present objection is that it is merely a matter of linguistic convention what gets plugged in for 'a' and 'b'. For instance, if the convention is to identify the term 'water' with H_2O, then the negation of <Water = H_2O> will yield a semantic inconsistency (and therefore be broadly logically impossible).

To better illustrate, imagine Putnam's "Twin Earth" where there exists some substance qualitatively identical to water—i.e., some clear, tasteless liquid filling rivers and lakes, etc.—which is *not* composed of H_2O, but some other compound (call it XYZ).[21] Such a scenario is metaphysically possible, even according to Kripke—for, he only argued that *water* is necessarily H_2O, not that all *watery stuff* is necessarily H_2O. According to some, this fact renders Kripke's claim about necessity uninteresting, since it seems to amount to nothing more than an observation about our language. For, it seems that the only reason XYZ cannot possibly be water is that, by linguistic convention, we have decided to call something 'water' *only* when it is composed of H_2O. One can imagine the English-speaking community agreeing, "Whenever we find some clear, tasteless liquid that is composed of H_2O, we'll *call it* 'water', but if we find any clear, tasteless liquid composed of XYZ, we'll call it something else (e.g., 'twater')." As Alan Sidelle notes, the fact that <water = H_2O> is true "rules out that this stuff [XYZ] can be water—but we might wonder if that can really amount to anything more than that, given the rules of English, we cannot *call* it 'water'."[22] Because we language-users have elected to designate water by its deeper structure—rather than by, say, its functional features—we are forced to describe anything that functions like water, but has some deeper structure that is not H_2O, something *other* than 'water'. In other words, "the necessary truth reveals our linguistic conventions, not any metaphysically deep essential feature.[23]

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[21] Putnam (1975).

[22] Sidelle (2002), 320.

[23] Ibid.

Kripke believed this accusation was based on a confusion which arises from the fact that terms often have two senses. He calls the application of these two senses "rigid designation" versus "nonrigid designation," respectively. Consider:

> The inaccurate statement that Hesperus might have turned out not to be Phosphorus should be replaced by the true contingency … : two distinct bodies might have occupied, in the morning and the evening, respectively, the very positions actually occupied by Hesperus-Phosphorus-Venus. … Let 'R$_1$' and 'R$_2$' be the two rigid designators which flank the identity sign. Then 'R$_1$ = R$_2$' is necessary if true. The references of 'R$_1$' and 'R$_2$', respectively, may well be fixed by nonrigid designators 'D$_1$' and 'D$_2$', in the Hesperus and Phosphorus cases these have the form 'the heavenly body in such-and-such position in the sky in the evening (morning)'. Then although 'R$_1$ = R$_2$' is necessary, 'D$_1$ = D$_2$' may well be contingent, and this is often what leads to the erroneous view that 'R$_1$ = R$_2$' might have turned out otherwise.[24]

But, one might object, pointing out the fact that our terms often have two senses only helps to *clarify* why Kripke is wrong. For instance, David Chalmers appeals to this fact that there are often two different senses of terms in order to demonstrate that "The Kripkean considerations might tell us at best how [a] world and the relevant features should be appropriately described, but they have no effect on its possibility."[25] His view is the following: (1) First, those who claim that <Water = H$_2$O> is metaphysically *contingent* are using the *primary intension* of 'water'—namely, they are designating 'water' *functionally* rather than *structurally*, so that 'water' means something like 'watery substance'. Under the primary intension, any watery stuff would be water, no matter its molecular make-up. (2) On the other hand, those who claim (as Kripke does) that <Water = H$_2$O> is metaphysically *necessary* are using the *secondary intension* of the term 'water'; namely, they are designating 'water' *structurally* rather than *functionally*, so that what it is to be water *is to be* H$_2$O. Under the secondary intension of 'water', water could not be anything *other than* H$_2$O because part of what it *means* to be water is to be H$_2$O. Under this secondary intension, watery substances *not* composed of H$_2$O (e.g., XYZ) would not be water; at best, they would merely be that (i.e., *watery substances*).

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[24] Kripke (1980), 143-4.

[25] Chalmers (1996), 134.

Thus the disagreement over whether or not <Water = H_2O> is only *contingently* true is, according to Chalmers, really based on an equivocation.

Chalmers then uses his framework in order to clarify why the <Water = H_2O> case does not (contrary to Kripke's claim) demonstrate that logical possibility is distinct from metaphysical possibility. Recall Kripke's original claim that <Water = H_2O> is metaphysically necessary though logically contingent. But, now consider the issue within the context of Chalmers' framework of primary and secondary intensions: (1) Under the *primary* intension of 'water' (where water refers to any watery substance), <Water = H_2O> is both logically *and* metaphysically contingent. That is, there do not seem to be any logical, semantic-conceptual, *or* metaphysical truths that preclude the possibility of a *watery substance* being composed of something other than H_2O. (2) On the other hand, under the *secondary* intension of 'water' (where water refers to H_2O), <Water = H_2O> is both logically *and* metaphysically *necessary*. That is, since both logical and metaphysical necessity are limited by the semantic truths, and one of the semantic truths is that 'water' *just means* 'H_2O', then it is impossible for water to be anything *other than* H_2O. Thus, it does not seem that we can differentiate logical possibility from metaphysical possibility by appealing to the different results yielded for Kripke's so called *a posteriori* necessities. Furthermore, since <Water = H_2O> is only necessary under the *secondary* intension (where 'water' *just means* 'H_2O'), the proposed necessity is not even very interesting; it posits nothing more "beyond, perhaps, the logical necessity of H_2O being H_2O."[26]

Consider one final example:

> Suppose that, at a certain time, the only food in England was mutton stew, and all mutton stew in England was food. As you know, mutton stew is composed of boiled mutton, boiled potatoes, and boiled turnips: MPT. Now voyagers from England traveled to twin England down south, where they discovered fettucini, veal scallopini, and even bread, which are composed of things like wheat, cream, garlic, and so on; not MPT at all. Should they phone home and say, "Lots of tasty, nutritious things to eat here; but sorry, no food"? Because after

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[26] Sidelle (2002), 321.

all, no MPT. Of course not. But why is this case different from the twin-Earth [<water ≠ XYZ>] case?[27]

The English citizens would recognize a counter-example to <Food=MPT> if they found some foody stuff that was not composed of MPT. Why, then, is the watery stuff composed of XYZ on Twin-Earth not a counter-example to <Water = H_2O>? The answer is that "food" is a functional term, while "water" is a compositional term. But, philosophers such as Sidelle would argue that the fact that "food" is designated functionally rather than structurally while "water" is designated in the reverse way is merely a convention. It might have turned out the other way around; in fact, in the case of "water," it *was* the other way around until the chemists told us what the deep structure of the stuff in lakes and rivers really was—i.e., historically, the term 'water' originally designated a substance with a certain *function*, rather than one with a certain structure or *composition*; that is, until the chemists convinced their fellow language-users to re-define the term 'water', all watery substances were water. Thus, it is argued, *a posteriori* necessities are only necessary by convention, and tell us nothing more than certain facts about the English language—they do not reveal any deeper metaphysical necessities regarding the structure of reality. Furthermore, *a posteriori* necessities do not serve to distinguish logical possibility from metaphysical possibility, since they both yield the same conclusions about these supposed necessities once we specify which intension of the terms we are using.

2.2.3 Against Causal A Posteriori Necessities

The style of argument presented in the previous section—demonstrating that, if <Water = H_2O> is a metaphysically necessary truth, then it is neither interesting nor an indicator that metaphysical possibility is narrower than logical possibility—is available as a response to other

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[27] Bealer (1987), 296.

proposed *a posteriori* necessities as well. Here, I will examine two of those proposed necessities: Metaphysically necessary governing laws and dispositions.

A law theorist might argue that <F=ma> is an *a posteriori* necessity, and for this reason it is a metaphysically necessary though logically contingent truth. However, one might object that this law is only metaphysically necessary in the *secondary* intention—i.e., the intension where 'force' *just means* 'mass times acceleration', or where 'mass' *just means* 'force divided by acceleration'. But, in that case, <F=ma> is an uninteresting metaphysical necessity, and furthermore, one that is also *logically* necessary. For, none of the logical, semantic, or metaphysical truths seem to rule out the possibility that there exists some *force-like* thing which is not the product of mass and acceleration. All that this "necessary" law tells us (under the secondary intension) is that, if there exists some force-like thing which is *not* the product of mass and acceleration, we should simply call it something else; i.e., 'schforce' (or 'schmass' in the case where some mass-like thing is not the quotient of force and acceleration, etc.).[28] But, then, as Chalmers notes, "Nothing here gives reason to suppose that worlds with different laws are impossible; at best, it suggests that they are misdescribed as breaking our laws."[29] On the other hand, if we understand <F=ma> under the *primary* intension—where 'force' means some "force-like" thing—then the law seems to be both logically and metaphysically *contingent*. Thus, the proposed necessary law is either uninteresting (if interpreted under the secondary intension), or else contingent, rather than necessary (if interpreted under the primary intension).

Dispositional essentialists are open to a similar response. These philosophers argue that objects possess bare dispositions—i.e.., properties which govern their objects such that they will react, or manifest, in a particular way when placed in certain conditions—and these properties are said to be

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[28] For a discussion of this, see: Chalmers (2002), 190.

[29] Ibid.

essential features of the objects which possess them. Many dispositional essentialists hold, for instance, that <Salt dissolves in water> is a truth which is metaphysically necessary, though logically contingent.[30] But, it may be said, this necessity only results if 'salt' *just means* 'such and such compound that dissolves when placed in water'—and this definition is chosen by convention. The proposed necessity does *not* rule out the possibility of a scenario where something qualitatively identical to salt does *not* dissolve in water. By stipulation, however, we would simply call such a compound something other than 'salt'; we might call it 'schmalt', for instance (or else, if it *is* salt, then the "water" is really *twater* (XYZ), etc.). Again, it turns out that <salt dissolves in water> is necessarily true only in the secondary intention—in which case it is both metaphysically *and* logically necessary—and contingently true only in the primary intention—in which case it is both metaphysically *and* logically contingent.

In the cases just presented, the supposed necessities seem to be necessities only by *convention*, and prove nothing so exciting as the existence of some deeper metaphysical structure within reality. Dispositional essentialists, of course, do not take themselves to be saying anything so trivial. Brian Ellis, for instance, writes, "Real dispositional properties exist as distinct entities, prior to any nominalist or operationalist definitions of them."[31] Additionally, this accusation of triviality is the very sort that Kripke opposes when he writes the following:

> Note that on the present view, scientific discoveries of species essence do not constitute a 'change of meaning'; the possibility of such discoveries was part of the original enterprise. We need not even assume that the biologist's denial that whales are fish shows his 'concept of fishhood' to be different from that of the layman; he simply corrects the layman, discovering that 'whales are mammals, not fish' is a necessary truth.[32]

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[30] See, for instance: Bird (2001).

[31] Ellis and Lierse (1994), 38.

[32] Kripke (1980), 138.

It is not necessary that we accept Kripke's theory of language, however. As Kripke himself admits, "Logically, we as yet are committed to no thesis about the status of what we call 'names' in natural language."[33] Endorsing a full theory of rigid designation that picks out metaphysically interesting essences, natural kinds, etc. requires several metaphysical commitments. Therefore, since it is not entirely clear that we *must* analyze the meanings of terms in the way that Kripke proposes, it is not entirely clear (so the present objection argues) that all examples of *a posteriori* necessities demonstrate that metaphysical necessities are metaphysically interesting, or that metaphysical possibility is in fact narrower in scope than logical possibility.

2.2.4 "Interesting" Metaphysical Necessities

In light of the accusations just raised against several proposed *a posteriori* necessities, the question arises: *Are* there any uncontroversially "interesting" metaphysical necessities? First, it should be noted that the arguments above do not prove that the proposed necessities are *not* interesting—for, the assignment of definitions might not turn out to be conventional. Perhaps scientists really *are* discovering some deeper structure within reality, regarding essences and natural kinds, etc. Secondly, even if the definitions of terms such as 'salt' are conventional, the scientist is still positing something interesting, at the very least in the case of dispositional essentialist claims. For, the claim is certainly that—at the very least—that, necessarily, *this* salt (pointing to some actual salt) would dissolve if placed in *this* water (pointing to some actual water); and this seems to be a metaphysically "interesting" claim, insofar as it proposes a metaphysically necessary, though (presumably) logically contingent, connection between two distinct entities. But, more importantly, it remains the case that, even if the above objection succeeds, certain proposed metaphysically necessary/logically contingent scenarios would not be subject to it. I will now examine a few of these sorts of proposals.

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[33] Ibid., 4.

Here is an interesting proposal: Under the *primary* intension of 'water' (where 'water' refers to any watery stuff) <Water = H_2O> is logically *contingent* but metaphysically *necessary*. In other words, while it is not logically or semantically inconsistent to consider some watery stuff composed of something other than H_2O, it nevertheless turns out that such a scenario is not one of the *ways things could be*. This would yield the result that, while Putnam's Twin-Earth example (where there is some watery stuff composed of XYZ) is *logically* possible, it is metaphysically *impossible*. That is, *XYZ is a metaphysically impossible substance*! This seems to be Sydney Shoemaker's position, for instance.[34] While this may sound wildly implausible to most philosophers, even Sidelle, Chalmers, et. al. must admit that, certainly *this* position is metaphysically interesting—indeed *very* interesting—for, on this account, <watery substance = H_2O> is a metaphysically necessary though logically contingent truth, and in a way that cannot be undermined by the theory of semantics detailed in the previous sections.

In the introduction, we saw another proposal: <Space is a substance> is metaphysically necessary, though logically contingent. This claim does not seem to be susceptible to the linguistic convention objection. For, the substantivalist is not claiming that the proposition is necessary only under the second intension, but not under the first (i.e., they are not claiming that, while <*space* is a substance> is metaphysically necessary, <*extension*—i.e., any "space-like" thing—is a substance> is not). As I understand it, the substantivalist about space is not proposing that, while *space* is necessarily a substance, there are nevertheless metaphysically possible scenarios containing something *space-like* (i.e., extended), where extension is relational rather than substantial. So, it seems that the substantivalist would argue that both <space is a substance> *and* <extension is a substance> are metaphysically necessary (though logically contingent).[35] So, here is another "interesting"

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[34] See: Shoemaker (1998), 76 (n11).

[35] In defense of this claim, we might imagine Descartes being accused of holding the view that space *just is* corporeal substance, while extension is not. In that case, <Space is a substance> would be both logically necessary as well as metaphysically necessary, while <An extended region is a substance> would be both logically and metaphysically contingent. It seems to me that Descartes would have dismissed this proposal as ridiculous.

proposed metaphysical necessity, where the necessity appears to just be some brute fact about reality; about the way things are, and the ways things could be.

One of the most popular examples of a brute metaphysical necessity is the existence of God. Typically, theists say that God's existence is metaphysically necessary; i.e., all of the "ways things could be" include God. However, God's non-existence does not seem to yield any logical or semantic inconsistencies.[36] In fact, whether one is a theist *or* an atheist, some brute metaphysical necessity must be accepted. An example from Peter van Inwagen[37] will help to illustrate this: Consider the metaphysical possibility of God's existence in contrast with the metaphysical possibility of a "know-no" (a being who knows that God does not exist). The concept of God does not seem to be inconsistent with any logical or semantic truths; but, likewise, neither does the concept of a know-no. Clearly, however, it cannot be the case that *both* of these beings are metaphysically possible, since the existence of one entails the non-existence of the other (assuming that knowledge is factive). Of course, the co-existence of *both* a know-no *and* a necessary God is not only *metaphysically* impossible, but also *logically* impossible: Since knowledge that P entails that P is true, the know-no's knowledge that <God does not exist> is true would yield a direct inconsistency with the (also true) proposition, <God does exist>. Still, there remain three scenarios which are logically possible. Only one of these can describe the realm of metaphysical possibilities, however:

> **Three Potential Ways Things Could Be For God And The Know-No**
> (1) God is metaphysically possible; a know-no is metaphysically impossible.
> (2) God is metaphysically impossible; a know-no is metaphysically possible.
> (3) Neither God nor a know-no are metaphysically possible.

None of these scenarios yield an inconsistency, though it should be obvious that one and *only* one of them can accurately describe "the way things could be." We have here another example of the sort

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[36] This is actually up for debate. The atheist might argue that the existence of God does in fact yield a contradiction, and we would recognize this if we were "ideal conceivers." See: Chalmers (2002), 189. On the other hand, the theist might argue that The Ontological Argument for God's existence is successful, such that the *non*-existence of God yields a contradiction. I assume here that both of these suggestions are mistaken.

[37] van Inwagen (2002), 107.

of metaphysical necessity that is undoubtedly "interesting." So, it must be the case that metaphysical possibility is narrower in scope than any variety of logical possibility, and in such a way that no theory of semantics can explain away this necessity as failing to yield any interesting deep metaphysical features of reality.

2.3 Conclusion

As we have seen, there is little consensus regarding how to define the terms "logical possibility" and "metaphysical possibility," and how to describe their relation to one another. There does, however, seem to be a unique and viable variety of possibility which is less constrained than nomological possibility, but more constrained than logical possibility. Above, I defined the varieties of possibility as follows:

> **Four Varieties of Possibility**
> (1) *Narrow Logical Possibility* – Consistent with the logical truths
> (2) *Broad Logical Possibility* – Consistent with the logical + semantic-conceptual truths
> (3) *Metaphysical Possibility* – Consistent with the logical + semantic-conceptual + metaphysical truths
> (4) *Nomological Possibility* – Consistent with the logical + semantic-conceptual + metaphysical + actual-law truths

Note that the definitions of these four varieties of possibility do not *ensure* that metaphysical possibility will be narrower in scope than logical possibility, nor that it will be broader in scope than nomological possibility. On the one hand, it may turn out that *there are no* deep metaphysical truths available to restrict metaphysical possibility any further than logical possibility.[38] In that case, metaphysical possibility would be co-extensive with (broad) logical possibility. On the other hand, it may turn out that the actual laws *are* the deep metaphysical truths. In that case, metaphysical possibility would be co-extensive with nomological possibility. But, the fact that metaphysical possibility might turn out to be *co-extensive* with one of the other varieties of possibility does not

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[38] In the previous section, I argued that this is clearly not the case, however.

demonstrate that it is therefore not distinct from them. For, no matter the result, it will be informed by some metaphysical thesis (e.g., the thesis that there *are no* "deep" metaphysical truths, or the thesis that the "deep" metaphysical truths *just are* the actual laws) which would make it such that the two co-extensive varieties of possibility have their (identical) domains for different reasons.

Now, it seems to me that nomological possibility is the domain of the scientist, while logical possibility is merely conceivability[39]—the domain of the poet. Philosophers are neither scientists nor poets. Arguably, they are something in between. As such, it seems obvious that the following questions are the domain of the philosopher alone, and no one else: *Are* there any deeper metaphysical truths? If so, *what are they*? For the remainder of this work, I intend to lay the groundwork for an answer to these questions (the most central questions to all of philosophy). Specifically, my project here is to determine the ground of the truths about metaphysical possibility (i.e., the modal truthmakers). As we move forward with this goal in mind, I will assume three desiderata for metaphysical possibility:

Three Desiderata For Metaphysical Possibility
(1) It is *potentially* narrower in scope than logical possibility
(2) It is *potentially* broader in scope than nomological possibility
(3) It is that which is consistent with the logical + semantic-conceptual + metaphysical truths

3 Possible Worlds

3.1. Three Distinctions Concerning "Ways Things Could Be"

The metaphysical possibilities are the "way the world could be." Let us say that every way the world could be is a "possible world." If every possible way things could be is a possible world, then we may describe metaphysical possibility and necessity as follows: Something is metaphysically possible if it occurs in[40] *at least one* of the possible worlds; something is metaphysically necessary if it

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[39] I will say more about this claim in chapter 4, §7.

[40] Or obtains at, exists in, is instantiated at, is true at, etc.

occurs in *all* of the possible worlds; and something is metaphysically impossible if it occurs in *none* of them. The nature of possible worlds is disputed, however. What *are* possible worlds, exactly? Do they exist? Where are they? What are they made of? The various answers to these questions may be categorized in terms of three distinctions, detailed below: (1) Realism versus anti-realism, (2) actualism versus non-actualism, and (3) ersatzism versus non-ersatzism.[41]

Three Distinctions Regarding Possible Worlds
(1) *Realism vs. Anti-Realism* – Realists assert there *are* such things as possible worlds, while anti-realists deny this.
(2) *Actualism vs. Non-Actualism* – Actualists believe that possible worlds exist and are a part of the actual world, while non-actualists hold that possible worlds exist *outside of* or *beyond* the actual world.
(3) *Ersatism vs. Non-Ersatzism* – The ersatzist believes that possible worlds are abstract entities, while the non-ersatzist believes that they are, roughly, *concrete* (see the next section for more details).

In the following sections, and in light of these three distinctions, I will explore an exhaustive list of options regarding the ontological status or nature of possible worlds.

3.2 On the Ersatz/Non-Ersatz Distinction

Before exploring the nature of possible worlds, I would like to say more about the ersatz/non-ersatz distinction. Ultimately, it is that distinction that David Lewis referred to when he pointed out that his possible worlds were not *different in kind* from the actual concrete world, while those of, e.g. Robert Adams, *were*. David Lewis claimed that there were other worlds beyond our own—worlds just like ours, but with *real, material* unicorns, and leprechauns, and talking donkeys. Adams, on the other hand, proposed that worlds were merely abstract entities—namely, sets of propositions which only *represent* what is possible. On the present distinction, Adams' different-in-kind worlds are "ersatz" worlds, while Lewis's same-in-kind worlds are "non-ersatz" worlds.

Note that the ersatizm/non-ersatzism distinction is *not* the naturalism/non-naturalism distinction. Several philosophers, when discussing possible worlds, distinguish "naturalism" versus

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[41] Note that all actualists, non-actualists, ersatzers, and non-ersatzers are realists.

"non-naturalism" about worlds (which are, roughly, the view that worlds, or at least their constituents, are empirically observable versus the view that they are not).[42] But, this is not quite the distinction I am making here, for the natural/non-natural division is not a clean one. Though it *is* true that all ersatz worlds must be non-natural, it is *not* true that all non-ersatz worlds must be natural. For instance, Lewisian worlds may contain universals, souls, and gods—all non-natural entities. Furthermore, Lewisian worlds are generally labeled "non-natural" because they are non-actual entities, spatio-temporally isolated from our own universe—and such entities are in principle unobservable/unverifiable. But, in that case, both Adams' "different-in-kind" worlds and Lewis's "same-in-kind" worlds fall into the same category (i.e., non-natural)—a result I wish to avoid. So, I do not wish to call the non-ersatz worlds "natural".[43]

Very roughly, we may say that non-ersatz worlds are *concrete*, while ersatz ones are *abstract*—though of course, if we do so, then we should do this with the same degree of hesitation that Lewis had.[44] I would now like to put forward three claims regarding the ersatz/non-ersatz distinction:

Three Features of Ersatz Versus Non-Ersatz Worlds
(1) Ersatz worlds are different *in kind* from the things in the actual, concrete world, while non-ersatz worlds are not.
(2) Ersatz worlds are *always* abstract entities, while non-ersatz worlds are not (though they may be sometimes, or partially).
(3) Ersatz worlds *represent* the "ways things could be," while non-ersatz worlds simply *are* the "ways things could be."

3.3 Five Views of Possible Worlds

Given the three distinctions regarding possible worlds stated above, there are only five possible views concerning their nature. What follows is a list, a graphic depiction, and then a brief description of these five views:

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[42] See, for instance: Armstrong (1989), 3; Borghini and Williams (2008), 29.

[43] Neither do I wish to call the non-ersatzist view physicalism, or nominalism, or Aristotelianism, for similar reasons.

[44] Lewis (1986), section 1.7. He hesitated to apply these labels since, as just noted, some of his "concrete" worlds contained abstract or non-concrete entities such as universals, souls, gods, etc.

Five Views of Possible Worlds
(1) Anti-realism (e.g., Quine[45])
(2) Realism: Non-actualist non-ersatzism (e.g., Lewis[46])
(3) Realism: Non-actualist ersatzism (e.g., Leibniz[47])
(4) Realism: Actualist non-ersatzism (e.g., Armstrong[48])
(5) Realism: Actualist ersatzism (e.g., Adams[49])
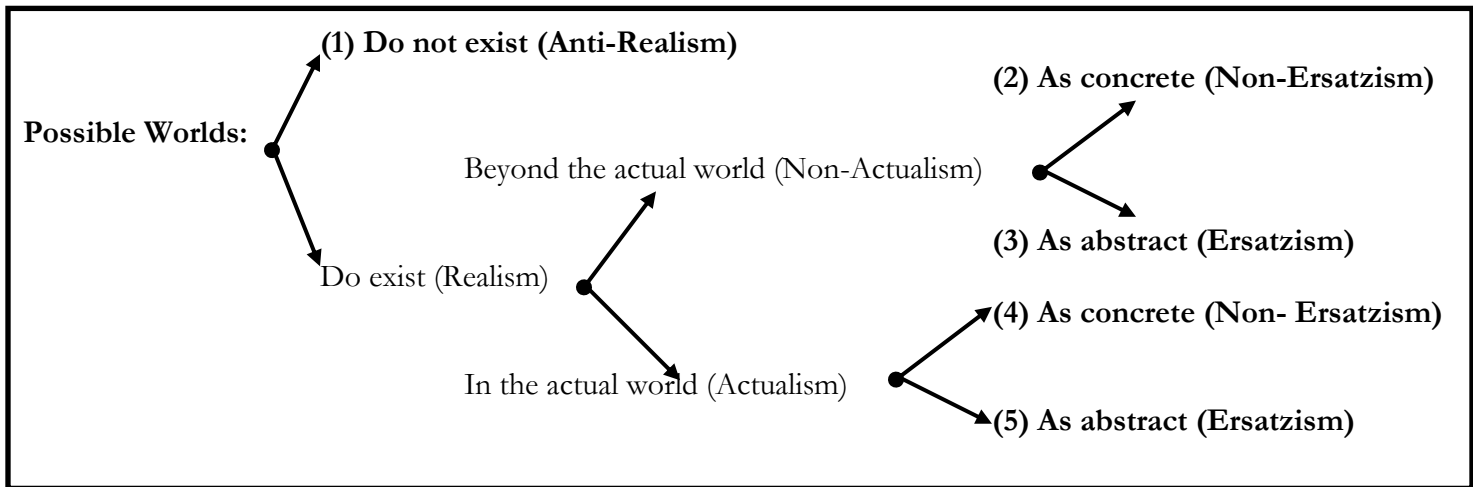
1. *Anti-realism* – An anti-realist about worlds (e.g., Quine) criticizes those views that posit an existing entity for every unactualized possibility as being ontologically unparsimonious, creating an "overpopulated universe" filled with a "slum of possibles." Perhaps, they say, we can engage in meaningful discourse about possibilities without the need to refer to merely possible *entities* (i.e., ontologically robust, unactualized, possible scenarios). Or perhaps, on the other hand, discourse about possibility and necessity is not meaningful *at all*. (Note that the remainder of the views are realist, and deny these claims)

2. *Realism: Non-actualist non-ersatzism* – The non-actualist, non-ersatzist view is a realist one (as are the next three views), proposing that possible worlds not only *exist*, but that they are *real, concrete*

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[45] W. V. O. Quine, "On What There Is," in *Review of Metaphysics*, Vol. 2 (1949), 21-38.

[46] Lewis (1986).

[47] Leibniz, *Theodicy* (with certain qualifications – see below).

[48] Armstrong (1989) (with certain qualifications – see below).

[49] Adams (1979b).

universes beyond our own. This was David Lewis's view, for instance. For every "way things could be", he claimed, there exists a world which *is* that way, such that, in some of these other worlds, there even exist individuals very similar—perhaps even qualitatively identical—to you or I. Those individuals (counterparts of ourselves), live real lives in those worlds, in real, concrete environments. This is indeed a radical claim; hence it is sometimes called "extreme realism".

3. *Realism: Non-actualist ersatzism* – The non-actualist ersatzist agrees with Lewis that these possible worlds exist beyond or outside of our own. However, the ersatzist denies that they are *concrete*. They are, rather, abstract or *representational* entities. G.W. Leibniz, the late-17th century philosopher generally credited with coining the term "possible world", held something like this view. He held that the unactualized possibilities were ideas in the mind of God. Since worlds are *ideas* for Leibniz, his view is quasi-ersatzist.[50] Furthermore, since Leibniz considered God as *outside* of the set of possible worlds—and not contained *within* the actual world—his view is a quasi-non-actualist one.[51]

4. *Realism: Actualist non-ersatzism* – The actualist non-ersatzist holds that possible worlds exist concretely within the actual world. Strictly speaking, the view that possible worlds are actual non-ersatz entities is an incoherent one on the face of it. For, clearly there are not a plenitude of *really existing* unactualized, but concrete possible worlds existing within our own actual world! But, what *is* a coherent view is that all unactualized possibilities are merely *re-combinations* of actual, non-ersatz objects (i.e., if the unactualized possibilities *were* actual, they would be *composed of* actual, non-ersatz entities). This is David Armstrong's view, for instance. Note that, officially, Armstrong rejects the objective existence of possible worlds, however.[52]

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[50] I say *quasi*-ersatzist because one might argue that ideas should be included among the non-ersatz entities.

[51] I say *quasi*-non-actualist because the contemporary view is that, if God, exists, he exists *within* every possible world.

[52] Officially, Armstrong is a "fictionalist" about worlds (i.e., an actualist, ersatzist, subjectivist – see next section for more on subjective views of possible worlds). Armstrong (1989), 49.

5. *Realism: Actualist ersatzism* – The actualist ersatzist about possible worlds holds that possible worlds are abstract, representational entities existing within our own actual world. This was Robert Adams' view, for instance. He described possible worlds as maximal sets of propositions. Each maximal set of propositions is like a *book* which describes exactly one distinct way things could be. Furthermore, each set of propositions is *complete*, such that no detail is left out of the descriptions in any of the books.

3.4 Seven Views of Possible Worlds?

I will briefly mention here another potential division, based on mind-dependence. Some philosophers have proposed that, while possible worlds do not exist in any *objective* sense, they nevertheless exist *subjectively*, as mind-dependent entities. Gideon Rosen, for instance, argues that possible worlds "exist" in the actual world as fictions which we have devised.[53] This "fictionalism", as he calls it, would seem to be an actualist ersatzist *subjectivist* view of possible worlds—quite different from the actualist ersatzist view of, e.g., Robert Adams. I have labeled this view as (5b) in the diagram below. On the other hand, Paul Churchland has said that possible worlds "exist" in the actual world, but are merely brain states.[54] This would seem to be an actualist, *non*-ersatzist, subjectivist view of possible worlds, which I have labeled as (4b) below. Strictly speaking, perhaps these views are best described as anti-realist—but, due to the fact that the worlds do seem to have *some* ontological status, I believe these two views deserve categories of their own. The new distinction is depicted below. Note that this distinction only applies to actualist views since, if possible worlds are mind-dependent, and minds only exist in the actual world, there cannot be a such thing as non-actualist subjectivism about worlds.

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[53] Rosen (1990).

[54] Churchland (2002).

As concrete (Non-Ersatzism)
- (4a) As mind-independent
- **(4b) As mind-dependent**

Possible worlds exist in the actual world:

As abstract (Ersatzism)
- (5a) As mind-independent
- **(5b) As mind-dependent**
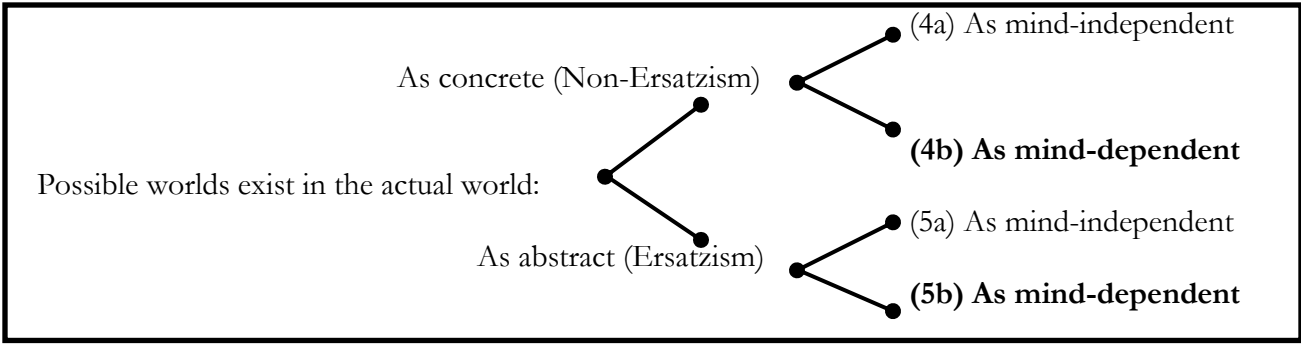
4 Modal Truthmakers

4.1 Three Distinctions Concerning Modal Truthmakers

The question I will primarily be concerned with in this work is the following: What is it that makes claims about possibility and necessity *true*? Consider the proposition, <I could have been a truck driver>. Intuitively, this seems true. But, *why* is it true? In other words, what *makes* it true? To ask this question is to ask what the "truthmakers" are for true modal propositions. Finding truthmakers for some propositions is quite simple. For instance, <A Dog exists> is made true by any dog that exists; i.e., by Fido, or Sparky, or Rover, etc.[55] In other words, it is *because of* the existence of dogs like Fido and Sparky that <A dog exists> is true. As it turns out, however, finding truthmakers for true propositions about metaphysical possibility and necessity is much more difficult. In this chapter, however, I would simply like to begin by noting that the same distinctions that applied to possible worlds apply to modal truthmakers as well:[56]

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[55] Or, if you prefer, by the *state of affairs* of Fido's existing, etc.

[56] Assuming that some modal claims *are* true; i.e., that modal propositions have "truth values."

Three Distinctions Regarding Modal Truthmakers
(1) *Realism vs. Anti-Realism* – Realists assert there *is* something that makes modal propositions true, while anti-realists deny this; that is, realists argue that modal propositions are true *in virtue of* something (i.e., modal truths *have truthmakers*) while anti-realists argue that modal truths *lack truthmakers*.[57]
(2) *Actualism vs. Non-Actualism* – Actualists believe that whatever makes modal propositions true is located at the actual world, while non-actualists believe that modal truths are true in virtue of something *outside of* or *beyond* the actual world.
(3) *Ersatzism vs. Non-Ersatzism* – Roughly, non-ersatzers believe that the modal truthmakers are *concrete*, while ersatzers believe they are *abstract*. More specifically, (a) Ersatz truthmakers are different *in kind* from the things in the actual, concrete world, while non-ersatz truthmakers are not, (b) Ersatz truthmakers are *always* abstract entities, while non-ersatz truthmakers are not, and (c) Ersatz truthmakers *represent* the individuals about whom they truth-make, while non-ersatz truthmakers simply *are* (or include) the individuals (or their counterparts) about whom they truth-make.

4.2 Five Views of Modal Truthmakers

Given the three distinctions regarding modal truthmakers stated above, there are only five possible views concerning their nature. What follows is a list, a graphic depiction, and then a brief description of these five views:[58]

Five Views of Modal Truthmakers
(1) Anti-realism (e.g., Mellor[59])
(2) Realism: Non-actualist non-ersatzism (e.g., Lewis)
(3) Realism: Non-actualist ersatzism (e.g., Leibniz)
(4) Realism: Actualist non-ersatzism (e.g., Pruss[60])
(5) Realism: Actualist ersatzism (e.g., Adams)

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[57] Though one version of the anti-realist position is that modal truths have no truthmakers because the truths *themselves* are basic, or "primitive", this view should not be confused with modal primitivism, which takes *modality* (rather than modal truth) as a primitive.

  Modal primitivism is simply the denial of the reductivist claim, which states that <Possibly, p> admits of some further (non-modal) analysis. Alvin Plantinga endorses modal primitivism, for instance [Loux, (1979a), 49]. For an example of a reductivist, see: Lewis (1986). But, neither modal primitivism nor reductivism entail, or are entailed by, anti-realism about modal truthmakers. For more on primitivism and reductivism, see chapter 7.

[58] We can, of course, once again devise *seven* views of modal truthmakers based on the above consideration of mind-dependence.

[59] D. H. Mellor (2003), 213. Strictly, Mellor only states that *most* modal truths lack truthmakers.

[60] Pruss (2011).

(1) Have No Truthmakers (Anti-Realism)

True Modal Propositions:

Beyond the actual world (Non-Actualism)

(2) As concrete (Non-Ersatzism)

(3) As abstract (Ersatzism)

Have Truthmakers (Realism)

In the actual world (Actualism)

(4) As concrete (Non- Ersatzism)

(5) As abstract (Ersatzism)
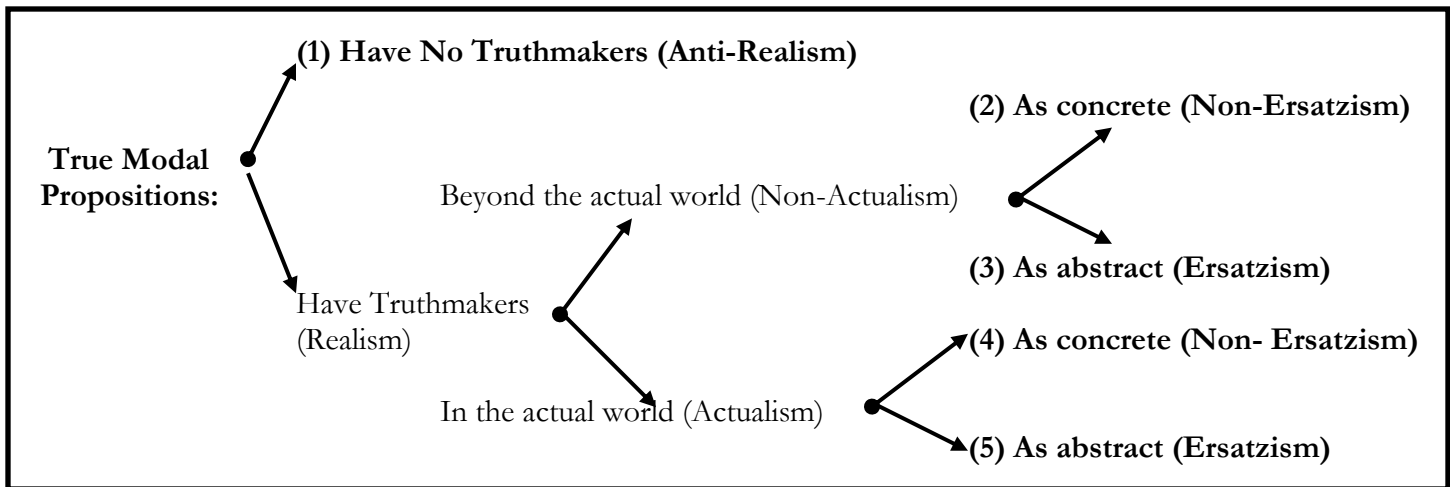
1. *Anti-realism* – An anti-realist about modal truthmakers is generally one who accepts that all metaphysical possibilities are *necessarily* possible—namely, since ◊p → □◊p is an axiom—such that propositions about both necessity *and* possibility are necessary truths. They then claim that necessary truths do not require truthmakers. The intuition here is that, since necessary truths could not have failed to be true, then "we don't owe an explanation for why things are such that p, given that there was no other option."[61]

2. *Realism: Non-actualist non-ersatzism* – A non-actualist, non-ersatzist about modal truthmakers proposes that modal propositions such as <I could have been a truck driver> are made true by concrete (i.e., non-ersatz) entities beyond the actual world. There is some concrete world, for instance, where my counterpart *is* a truck driver—and it is in virtue of this fact that <I could have been a truck driver> is true. For, anything that one of my counterparts does in fact do is, according to this view, the truthmaker for propositions about what I *could* do.

3. *Realism: Non-actualist ersatzism* – A non-actualist ersatzist about modal truthmakers holds that <I could have been a truck driver> is true in virtue of some ersatz entity outside of the actual world. For instance, Leibniz would claim that it is true in virtue of the fact that one of the possible scenarios in God's mind is one where I *am* a truck driver. Even though I do not *concretely* exist in that

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[61] Cameron (2008c), 262.

scenario, the scenario can nevertheless be said to *represent* some unactualized possibility involving myself—and this representation is the modal truthmaker.

4. *Realism: Actualist non-ersatzism* – Actualist non-ersatzists about modal truthmakers claim that the modal truths are made true by *concrete* objects in the *actual* world. This view is especially popular among disposition theorists (e.g., Pruss). For instance, on this view, <I could have been a truck driver> is true in virtue of some properties of *me*, the concrete particular—e.g., my dispositional properties. Because I possess the dispositions such that, in certain conditions, I *would have* become a truck driver, that proposition is said to be made true.

5. *Realism: Actualist ersatzism* – The actualist ersatzist about modal truthmakers claims that modal truths are true in virtue of abstract, representational entities which exist in the actual world. For instance, on Adams' view, <I could have been a truck driver> is true because, among the many maximal sets of propositions that are the possible worlds, the proposition <Vance is a truck driver> is true in some of them (though that proposition is false in most of those worlds). So long as this proposition that <Vance is a truck driver> is true in at least one of the worlds, the proposition <I could have been a truck driver> is made true.

CHAPTER TWO

ON TRUTHMAKING

Introduction

My goal in the present work is to first demonstrate that modal truths are made true by actual, non-ersatz entities, and then explore what this conclusion entails. Before discussing the various accounts of modal truthmaking, however, I would like to address two issues regarding truthmaker theory in general. The first, detailed in section 1, is to detail the difference between *analyses*, *truth conditions*, and *truthmakers*. These three concepts are presently confused in the literature, but are actually quite distinct, and the following chart (to be re-visited later) depicts the differences which I will lay out in more detail below:[62]

	Same in kind	Symmetry	Transitivity	Reflexivity	Necessity
Truth Condition	✓	✓	✓	✓	✓
Analysis	✓	X	✓	X	✓
Truthmakers	X	X	X	X	X

The second issue I will discuss is that debate regarding truthmaker maximalism; i.e., the view that for *every* truth, there is a truthmaker. In §2, I will provide a motivation for this view in the context of discussing the difficulty for finding suitable truthmakers for negative existentials; e.g., <There are no unicorns>.

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[62] *Note 1*: 'Same in kind' and 'symmetry' are intended to refer here to comparison between the item in the left column, and whatever that item is related to (e.g., analysandum vs. analysis, truth vs. truth condition, truth vs. truthmaker).
   Note 2: 'Transitivity' and 'reflexivity' refer only to the items in the left column.
   Note 3: 'Necessity' refers to the metaphysical impossibility of the item in the left column existing without its relatum also existing.

1 Analysis, Truth Conditions, and Truthmakers

1.1 Analysis

Analysis is the reduction of some concept or proposition into its constituent parts (in order to study the relationship of those parts with one another). One generally performs this reduction in one of two ways: The first, conceptual analysis, focuses merely on identifying the *meanings* of propositions or terms, while the second, metaphysical analysis, seeks to identify the *philosophical underpinnings* of propositions or terms. For instance, as an example of the former, one might analyze the concept 'bachelor' into its constituents 'unmarried' and 'male'. As an example of the latter, one might analyze <I could have been a truck driver> as <At some possible world, my counterpart is a truck driver>. In the former, the analysis is that of the *meaning* of the term 'bachelor', while in the latter, the analysis involves an identification of the metaphysical commitments that underlie the original proposition.

Note that, for some concepts or propositions, the conceptual analysis will differ from the metaphysical analysis, while for others, it will not. For instance, the conceptual analysis of 'water' might be "the clear, tasteless liquid filling rivers and streams," while the metaphysical analysis of 'water' might be 'H_2O'. On the other hand, it seems plausible that both the conceptual *and* metaphysical analysis of <S knows that P> is—assuming the justified true belief view of knowledge—something like <P is true>, <S believes that P>, and <S is justified in believing that P is true>. In other words, in this case, one and the same analysis is plausibly a description of what we *mean* by the proposition, but it is *also* a description of the philosophical pre-suppositions that underlie that proposition.

There are several attributes of analyses worth noting:

(1) *Asymmetry* – The relation between an analysandum (i.e., the thing to be analyzed) and its analysis is *asymmetric*. Since analysis is *reductive*, such that the analysandum is *reduced to* its more fundamental constituents, the analysis is *more basic* than the analysandum.

(2) *Irreflexivity* – The analysis relation is *irreflexive*. That is, nothing is an analysis of itself. Note that this does not rule out the possibility that that some concepts are *basic* (that is, admitting of no further analysis).

(3) *Sameness in Kind* – An analysandum and its analysis are *the same in kind*. For example, if the analysandum is a concept (e.g., 'bachelor'), then the analysis must also be a concept, or set of concepts (e.g., 'unmarried' and 'male'). On the other hand, if the analysandum is a proposition (e.g., <S knows that P>), the analysis must also be a proposition, or set of propositions (e.g., <P is true>, <S believes that P>, and <S is justified in believing that P is true>).

(4) *Transitivity* – The analysis relation is *transitive*. For instance, consider the JTB analysis of <S knows that P>. Part of that analysis may be further analyzed (for instance, <S believes that P> may admit of some further analysis). Then, that further analysis constitutes part of the analysis of <S knows that P>. In short, if B is the analysis of A, and C is the analysis of B, then C is the analysis of A.

(5) *Necessity* – Finally, the analysandum-analysis relation is a *necessary* one. That is, for any analysandum-analysis pair, it is metaphysically impossible for that analysandum to be irreducible to that analysis.

1.2 Truth Conditions

1.2.1 Definition

A truth condition is that which must be satisfied in order for some true proposition to be true. The truth conditions for some true proposition are the necessary and sufficient conditions for its

truth. For instance, on the JTB analysis of 'knowledge', in order for <S knows that P> is true, it must also be the case that <P is true>, <S believes that P>, and <S is justified in believing that P is true> are all true. But, as I will argue below, the relation is a biconditional one, such that, in order for the latter three propositions to be jointly true, it must also be the case that <S knows that P> is true. Before listing the attributes of truth conditions, let us consider a problem regarding necessary truths.

1.2.2 Regarding Necessary Truths and Symmetry

There is a potential worry about truth conditions, with regard to necessary truths. Consider the proposition, <The cat is on the mat>. This is a contingent proposition, and its truth condition will be something like the conjunction of <The cat exists>, <The mat exists>, and <The cat and the mat are in such and such locations>. These latter propositions must be true in order for <The cat is on the mat> to be true. However, necessary truths such as <2+2=4> must *also* be true in order for <The cat is on the mat> to be true (or at least, it is impossible for the latter to be true and the former false). Therefore, it seems as if the complete set of necessary truths are truth conditions for *every* truth. This is a worrisome result; and how we deal with this worry will depend upon whether or not we take the truth condition relation to be *symmetric*.

1. The Truth Condition Relation is Asymmetric – One way to reply would be to just accept this supposedly undesirable result, agreeing that <2+2=4> *is* a part of the truth condition for <The cat is on the mat>, since it is impossible for the proposition <The cat is on the mat> to be true without <2+2=4> also being true. This is the case simply in virtue of the fact that <2+2=4> cannot fail to be true. If we are imagining a scenario where <2+2=4> is false, we are simply not imagining a scenario that is metaphysically possible, and therefore not one where <The cat is on the mat> could be true. Of course, this would make the truth condition relation an asymmetric one. For, while <The cat is on the mat> cannot be true without <2+2=4> also being true, the reverse does not

hold. <The cat is on the mat> is contingent, and so, clearly, <2+2=4> *can* be true without <The cat is on the mat> being true. But, perhaps this is the way that truth conditions work. Perhaps the truth condition relation *is* asymmetric, and each necessary truth is a truth condition for all other truths (necessary or contingent).

2. The Truth Condition Relation is Symmetric – Another way to reply (the one which I favor) begins by arguing that the truth condition relation is a symmetric one. For instance, we might say that a truth condition is such that: If P is a truth condition for Q, then Q cannot fail to be true whenever P is true. But, similarly, P cannot fail to be true whenever Q is true. In short, we might claim that P and Q are truth conditions for *each other* such that <P↔Q> is true. Here, then, we might think of the complete set of truth conditions for some true proposition as those true propositions that both *entail*, and *are entailed by*, the truth in question. The result is that <2+2=4> is not a truth condition for <The cat is on the mat>, since the former can be true without the latter being true.

There are a couple of reasons that one might think that the truth condition relation cannot be symmetric. (1) First, one might think that since, for instance, <X is unmarried> and <X is male> are the truth conditions for <X is a bachelor>, and the first two propositions are *more basic*, this indicates some asymmetry. This is confused, however. This sort of thought mistakes *truth conditions* for *analyses*. As stated above, the analysis-analysandum relation *is* asymmetrical, since the analysis is always more basic than the analysandum. However, truth conditions do not indicate anything concerning basic-ness. I suggest here that the truth condition relation is merely a bi-conditional relation of mutual entailment; e.g., <P ↔ Q>, where P entails Q, but Q also entails P.

(2) Truth conditions might seem asymmetric for another reason as well: For instance, on the JTB view of knowledge, it seems that <P is true> is a truth condition for <S knows that P>. If the truth condition relation is symmetric, then the latter is *also* a truth condition for the former. But, this cannot be the case. For, P can be true without S knowing that it is true. Thus, the relation must be

an asymmetric one. Reply: Recall that truth conditions are those conditions which are both necessary *and* sufficient for truth. Strictly speaking, then, <P is true> is *not* a truth condition for <S knows that P>. Rather, it is merely a *part of* the truth condition for <S knows that P>, the entire truth condition being the conjunction of <P is true>, <S believes that P>, and <S is justified in believing that P>. Thus, it is simply not the case that <P is true> is a truth condition for <S knows that P>, but not vice versa. Neither is a truth condition for the other.

I favor taking the truth condition relation as a symmetric one. If the relation is a symmetric one, then <2+2=4> is not a truth condition for <The cat is on the mat>, since the former can be true while the latter is false. Thus, taking the relation to be symmetric assuages the worry about necessary truths. In chapter 6, I will draw out a further advantage of this position: Taking the relation to be symmetric rather than asymmetric also explains some of our mistaken intuitions about possible worlds as truthmakers. Of course, there is still the worry that every *necessary* truth will be a truth condition for every other *necessary* truth. For instance, it will turn out that <2+2=4> is a truth condition for <All bachelors are married>, and vice versa. I suggest that we simply accept this conclusion.

If we are unhappy with it, we might attempt to add some counterfactual stipulation to the definition of the truth condition (though I do not recommend it). For instance, consider the two propositions just stated. We can "imagine"—in some loose sense of that term—a (metaphysically impossible) scenario where <2+2=4> is false. But (presuming that when that proposition is false it has no effect upon the meaning of the term 'bachelor'), <All bachelors are unmarried> would still have to be true in that scenario. So, if we define a truth condition for P as any proposition that could not—*per impossibile*—fail to obtain when P is true, and vice versa, then <2+2=4> is not a truth condition for <All bachelors are unmarried>. But, this sort of reply is unsatisfactory for two reasons: First, a worry might arise that what is really being asserted here is that, <If <2+2=4> is

false, and if <'Bachelor' means 'unmarried male'> is true, then <All bachelors are unmarried> is true>. This is a conditional with an impossible antecedent and is therefore only *trivially* true. To fully develop this strategy, more would have to be said about whether or not conditional statements with impossible antecedents can ever be true in a *non*-trivial way. Second, and more importantly, this response would be in danger of have the unfortunate result that *no* proposition could be a truth condition for *any* other proposition. For instance, as long as we are entertaining metaphysically impossible scenarios, then what prevents us from "imagining" a scenario where—*per impossibile*—the proposition <The cat is on the mat> is true even though <The cat exists>, <The mat exists>, and <The cat and the mat are in such and such locations> are all *false*? It seems that there is nothing to prevent this. Surely this is an undesirable result. There is even a metaphysically impossible scenario where <All bachelors are unmarried> is false even though <'Bachelor' means 'unmarried male'> is true. This is incoherent. Therefore, I suggest that we accept the conclusion that each necessary truth is a truth condition for all other necessary truths.

1.2.3 Attributes

In light of the above considerations, there are several attributes of the truth condition relation worth noting:

(1) *Symmetry* – As I have just suggested, the relation between a truth and its truth conditions is *symmetric*. That is, there is no priority between a truth and its truth conditions. The relation between a truth and its truth conditions is a bi-conditional involving mutual entailment; e.g., <X is a bachelor> if, and only if, <X is unmarried> and <X is male>. The nature of this biconditional is such that, if <X is a bachelor> is true, then the propositions <X is unmarried> and <X is male> must also be true. But, likewise, if <X is unmarried> and <X is male> are jointly true, then <X is a bachelor> must also be true.

(2) *Reflexivity* – The truth condition relation is *reflexive*, if only trivially so. It is obviously the case that, if P is true, then this entails that P is true, and vice versa. That is, once we have accepted that the truth condition relation is symmetrical, then we must also accept that it is reflexive, since $<P \leftrightarrow P>$ is necessarily true.

(3) *Sameness in Kind* – Truth conditions are those things that must be true in order for some truth to be true. As such, both the truth and its truth conditions will be the *same in kind*; namely, whatever count as truth-bearers (for example, propositions).

(4) *Transitivity* – The truth condition relation is *transitive*. If we have some truth, P, and its complete set of truth conditions, Q, and Q has some further complete set of truth conditions, R, then R will constitute the truth conditions for P. That is, whenever we have $<P \leftrightarrow Q>$ and $<Q \leftrightarrow R>$, then $<P \leftrightarrow R>$ must also be true. For instance, on the JTB view of knowledge, <S knows that P> if and only if <S believes that P>, <P is true>, and <S is justified in believing that P is true>. However, there are further truth conditions for <S believes that P>; something like <S recognizes the meaning of P>, <S has the appropriate mental state of assenting to the truth of P>, etc. In that case, <S knows that P> if and only if <P is true>, <S recognizes the meaning of P>, <S has the appropriate mental state of assenting to the truth of P>, etc., and <S is justified in believing that P is true>.

(5) *Necessity* – Finally, the truth condition relation is a *necessary* one; i.e., if Q is the complete set of truth conditions for some truth, P, then it is metaphysically impossible for Q be true while P is false, and vice versa.

1.3 Truthmakers

A truthmaker is that thing which *makes* some truth true. The idea is that some truths—or, *all* truths, as I will suggest below—have their truth in virtue of some portion of reality, such that whether or not a proposition is true is dependent upon what reality is like. For instance, the proposition <Vance exists> is true. The thing that *makes* this proposition true is me, the concrete object (pointing to myself).[63] This idea is capture by Aristotle when he writes:

> *The fact of the being of a man carries with it the truth of the proposition that he is*, and the implication is reciprocal: for if a man is, the proposition wherein we allege that he is is true, and conversely, if the proposition wherein we allege that he is is true, then he is. The true proposition, however, is in no way the cause of the being of the man, but the fact of the man's being does seem somehow to be the cause of the truth of the proposition, *for the truth or falsity of the proposition depends on the fact of the man's being or not being.*[64]

There are several attributes of the truthmaker relation worth noting:

(1) *Asymmetry* – The truthmaker relation is *asymmetric*. As Aristotle noted above, my existence somehow seems to *cause* (or, "make") the truth of the proposition, <Vance exists>. The notion of truth-*making* seems to have the very notion of asymmetry *built in* to the term. For, it is a *dependence* relation, such that the portions of reality that serve as truthmakers *ground* the truth of the propositions that they make true.[65] That is, existing portions of reality make certain truths true, but those truths do not make certain portions of reality exist.

(2) *Irreflexivity* – The truthmaker relation is *irreflexive*, if only trivially so, due to the difference in kind between truths and truthmakers (see below). Truthmakers are the non-truth-

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[63] Or, if you prefer, the truthmaker is the *state of affairs* of my existing. Here, I will remain agnostic about whether it is me, the concrete object, or the (concrete) state of affairs of me existing that makes <Vance exists> true. However, for brevity, I will write as if it is merely *me*, the concrete object, which makes that proposition true.

It is worth noting that even Armstrong, a prominent states of affairs theorist, rejects states of affairs of the form *Vance's existing*, since these treat existence as a property. Armstrong (2004), 4.

[64] Aristotle, *The Categories*, chapter 12 (emphasis mine).

[65] For agreement, see: Dodd (2007), 393.

bearing portions of reality (e.g., concrete objects or states of affairs) which make the truth-bearers (e.g., propositions) true. As such, the relation simply cannot be reflexive.

(3) *Difference in Kind* – Whereas truths and truth conditions are the *same in kind* (namely, they are both truth-bearers; e.g., propositions), truthmakers and the truths that they make true are *different in kind*. This should be obvious enough in the above example, where the truth-bearer was a proposition (i.e., <Vance exists>) while the truthmaker was some concrete portion of reality; i.e., *me*, the concrete object. This will hold for all truths and truthmakers, since the truthmaker relation is one between true propositions and (non-propositional) portions of reality.[66]

(4) *Intransitivity* – The truthmaker relation is intransitive for the same reasons that it is irreflexive (see above).

(5) *Non-Necessity* – Finally, unlike the truth condition relation, the truthmaker relation is a *contingent* one. For example, the dog Fido makes true the proposition, <A dog exists>. However, that particular dog (Fido) need not exist in order for that proposition to be true (the dog *Sparky* will also make it true, for instance). Thus, the relation between the true proposition (P) and its truthmaker (X)—in this instance, between <A dog exists> and the particular dog, Fido—is not always a necessary one.[67]

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[66] Can true propositions be the truthmakers for other true propositions? Trenton Merricks seems to suggest so. [(2007), 12] But, if that is the case, then what I have said here would be mistaken.

At first glance, it may seem that propositions *could* be the truthmakers for other propositions. For instance, it might seem that the truthmaker for <S knows that P> could be (on the JTB view of knowledge) the true propositions, <P is true>, <S believes that P>, and <S is justified in believing that P>. However, this confuses the truth-*maker* for <S knows that P> with the truth *conditions* for that proposition. Truth-*makers* are not truth-bearing entities; they are, rather, the entities that *make* the truth-bearing entities have the truth values that they do. The truth-*maker* for <S knows that P>, then, is just the set of those (non-truth-bearing) portions of reality which make the latter three propositions true.

[67] Of course, *sometimes* the relation will be a necessary one. For instance, if we have the true proposition, <Fido exists> (P) and its truthmaker, Fido (X), it will be case that $\Box\, X \leftrightarrow P$. My point, however, is merely that the truthmaker relation is not *always* a necessary one.

I would like to say a bit more about contingency and necessity regarding the relation between truths and truthmakers. I have just stated that, if X is the truthmaker for proposition P, then, for some P, P can be true without X existing. However, it is *not* the case that, for some X, X can exist without P being true. For example, even though <A dog exists> can be true in the absence of Fido, it is *not* the case that Fido can exist without making <A dog exists> true (assuming, of course, that Fido is essentially a dog). So, there is necessitation in one direction, but not the other.

Some have suggested that this conclusion is false, however, stating that there is necessitation in *neither* direction. To illustrate, consider the plausible assumption that the truthmaker for the proposition, <All ravens are black> is the set of all actual ravens (which are black). But, now imagine a scenario where all of those ravens exist *as well as* some white ones—in which case, there is no necessitation between the truthmaker and its truth, since here we have a case where the truthmaker (namely, the set of actual, black ravens) exists, but the proposition in question (namely, <All ravens are black>), is false. I will say more about this worry in section 2, below. For now, it seems apparent that the relation between truth and truthmaker is contingent in *at least* one direction.

1.4 Conclusion

The distinctions between analyses, truth conditions, and truthmakers should now be apparent. In the present work, I will primarily be concerned with truthmakers. I wish the reader to keep these distinctions in mind throughout this work (especially in chapter 3, where I argue that any account of modal truthmaking other than the actualist non-ersatz account is inadequate), as they will be quite helpful toward supporting several of my conclusions. Note especially this most important difference between truthmakers and the other two concepts (i.e., truth conditions and analyses): The latter are

always propositional in content, while truthmakers are always (non-propositional) parcels of reality.

A summary of the differences between these three concepts is illustrated below:[68]

	Same in kind	Symmetry	Transitivity	Reflexivity	Necessity
Truth Conditions	✓	✓	✓	✓	✓
Analyses	✓	X	✓	X	✓
Truthmakers	X	X	X	X	X

2 In Support of Truthmaker Maximalism

2.1 Truthmaker Maximalism

It seems obvious that there is truth. At least, I will assume this here. Furthermore, it seems that truth corresponds to reality. In light of this, truthmaker theory is quite attractive. For, as Armstrong points out, "Anybody who is attracted to the Correspondence theory of truth should be drawn to the truthmaker. Correspondence demands a correspondent, and a correspondent for a truth is a truthmaker."[69] The correspondence theory of truth entails the existence of truthmakers for true propositions.[70] The existence of truthmakers for some true propositions is intuitive; i.e., for some truths, there is something that *makes* it true. For instance, the conclusion that <Vance exists> is true in virtue of the existence of *me* the concrete object has incredible intuitive force. In this section, I will discuss truthmaker *maximalism*; i.e., the view which states that, for *every* truth there is a

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[68] Once again:
  Note 1: 'Same in kind' and 'symmetry' are intended to refer here to comparison between the item in the left column, and whatever that item is related to (e.g., analysandum vs. analysis, truth vs. truth condition, truth vs. truthmaker).
  Note 2: 'Transitivity' and 'reflexivity' refer only to the items in the left column.
  Note 3: 'Necessity' refers to the metaphysical impossibility of the item in the left column existing without its relatum also existing.

[69] Armstrong (1997), 14.

[70] Trenton Merricks rejects this assertion [(2007), 36-37]. However, he does so only by insisting that a fully descriptive version of truthmaker theory would say something about which properties are permitted into our ontology (i.e., which ones are not "suspicious"), though correspondence theory entails nothing about the ontology of properties. It seems to me that, at best, Merricks has shown that correspondence does not entail all of the finer details that a truthmaker theorist would need to work out. He has *not*, however, demonstrated that correspondence does not entail that true propositions have truthmakers (of *some* sort).

truthmaker. Though my central thesis ultimately does not require truthmaker *maximalism*, it *does* require that, for every *modal* truth, there is a truthmaker. We might call this view *modal* truthmaker maximalism. Below, however, I will provide a motivation for maximalism in general.

There are two classes of truth which have proven difficult for the truthmaker theorist: Necessary truths and negative truths. Necessary truths, as we have seen, are those which could not fail to be true. All modal truths are necessary truths, since <◊P→□◊P> is an axiom.[71] Negative truths are those which assert that something is *not* the case; for instance, <Unicorns do not exist>. There are two reasons why I will defend maximalism in general, rather than the weaker position of *modal* truthmaker maximalism: First, since I must endorse truthmakers for one of these two difficult classes of truth (namely, the modal truths), it would be somewhat inconsistent to refrain from endorse truthmakers for *both*. But, secondly, since <□P→~◊~P> is true, it seems that all modal truths—in addition to being *necessary* truths—are also negative truths (or, at least, are equivalent to negative truths). Here, then, I will address the more difficult of these two categories: Truthmakers for negative truths.

2.2 Truthmakers for Negative Truths

2.2.1 Four Categories of Negative Truth

There are four categories of negative truths. Providing truthmakers for each of them true has proven quite difficult. These categories are:

Four Categories of Negative Truth
(1) Negative existentials – particulars; e.g., <There are no unicorns>.
(2) Negative existentials – properties; e.g., <The Danube River is not blue>.
(3) General truths; e.g., <All ravens are black>.
(4) Superlative truths; e.g., <Robert is the tallest person in the world>.

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[71] Or, at least, it is an axiom in my preferred system of modal logic (S5).

Let us first examine category (2), negative existentials for properties. Presumably, there are no such things as negative properties; i.e., <The Danube is not blue> cannot be made true by the state of affairs, "the Danube's having the property of non-blueness". But, as Molnar points out, perhaps it is made true by some *positive* property of the Danube, and its incompatibility with blueness.[72] For instance, the fact that the Danube is grey (and grey is incompatible with blue) might be enough to ground such a truth.

This proposal is faced with a couple of problems, however: First, the incompatibility claim <being grey is not compatible with being blue> is itself a negative truth in need of a truthmaker. Furthermore, such incompatibilities often incorporate other negative truths covertly (for instance, incompatibilities regarding height).[73] Consider the proposition, <John is not seven feet tall>, for instance. The state of affairs of John's being six feet tall is said to be a suitable truthmaker for this negative proposition, since John's being six feet tall is incompatible with his being seven feet tall. But, this is only if the property "being six feet tall" is really something like "being six feet tall *and no taller.*" So, we have not really explained away a negative property with a positive one. We have only explained a negative property with *another negative property.* To understand this mistake more clearly, one need only consider that *some* quantitative properties do *not* smuggle in negative clauses covertly. For instance, <Sue has six dollars> is *not* incompatible with <Sue has seven dollars>, since "has six dollars" does not entail the additional negative clause, "and she has no more dollars." In any case, even if that solution works, there are other type-(2) negative truths for which this solution does not seem to be available. For instance, what would be the truthmaker for <This liquid is colorless>? Furthermore, the other three categories of negative truth would still remain a problem.

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[72] Molnar (2000), 74.

[73] Armstrong (2004), 61, 74.

2.2.3 Absences

Let us now consider type (3) negative truths; i.e., general truths. Imagine that there are exactly one billion ravens in the world and all of them are black. What is the truthmaker for the proposition <All ravens are black>? Intuitively, we might think that it is simply the set of one billion actual ravens which makes this proposition true. But, this cannot be the case, since we can imagine another scenario where exactly this set of one billion black ravens exists *as well as* one white raven. In that scenario, the proposition, <All ravens are black> would be false. So, if the set of actual ravens makes the proposition <All ravens are black> true, it does so only *contingently*. But, truthmaker theorists generally claim that, if a truthmaker makes some proposition true, it *cannot fail to do so*; i.e., for any X, if X makes P true, then necessarily, if X exists, P is true. Molnar very eloquently motivates this principle as follows:

> If the very particulars whose actual existence make true the statement 'There is no wine on the table', could exist in some possible worlds and not make it true, in those worlds, that there is no wine on the table, then how could the existence of those particulars serve to *explain* the truth in the actual world of 'There is no wine on the table'? Truthmaking is the relation that we invoke to explain why a statement is true by reference to the existence of something. Such explanations could not be given if the link between the explanans and the explanandum were a purely accidental relation. … [If that were the case], there could be two possible worlds that are identical in what they contain but in one of which *p* is true while in the other *p* is not true. This would altogether sever any connection between what exists in a world and the truths about that world, and would take us completely outside the framework of a broadly correspondence view of truth. Truthmaking is necessary or it is nothing.[74]

What we need, then, is some truthmaker *in addition to* the set of one billion actual ravens, such that <All ravens are black> would not be true in the scenario where there is an additional white raven. Some have suggested *absences* as truthmakers for these sorts of truths.[75] Thus, it might be the *absence* of non-black ravens that makes the proposition true. Similarly, regarding the other categories of negative truth, the absence of color in this liquid would make <This liquid is colorless> true; the

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[74] Molnar (2000), 84.

[75] See, for instance: Martin (1996).

absence of unicorns would make <There are no unicorns> true; and the absence of anyone taller than Robert would make <Robert is the tallest person in the world> true. Thus, we might say that negative truths are true in virtue of a lack of "falsemakers." But, truthmaking is a relation, and it requires two relata. So, as Molnar points out, "If absences are to work for us as truthmakers, we have to take them ontologically seriously."[76] Since the truthmaking relation is between the truth-bearer and some portion of reality, absences would need to be *portions of reality*. A lack of something does not seem to be anything at all, however. As Cameron puts it,

> Unless we reify this absence of a truthmaker this is nothing but metaphysical smoke and mirrors. It's totally disingenuous to say that ~p is true in virtue of the absence of a truthmaker for p unless there is *some thing* that is this absence.[77]

Dodd points out that accepting absences (or the lack of falsemakers) as truthmakers is to make the category mistake of "reifying absences."[78] For instance, if <This liquid is colorless> is made true by the *absence* of color in the liquid (or, alternatively, the state of affairs of the liquid's being colorless), then it is either the case that absences are *things* or else there are negative properties (e.g., "colorlessness"). Both of these proposals are unacceptable.

2.2.4 Cambridge Properties

Presently, we are looking for that which makes <All ravens are black> true. Perhaps this truth can be grounded in Cambridge-type properties (i.e., relational, extrinsic properties which add nothing to the objects which possess them). For example, perhaps I have—or *all* objects in the world have?—the property of "being in a world where there are one billion black ravens", and this makes the above proposition true. But, I would still have this property in a world where there is one additional white raven. What we really need to establish, then, is that there are one billion black

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[76] Molnar (2000), 75.

[77] Cameron (2008b), 412.

[78] Dodd (2007), 386.

ravens, *and there are no other ravens*. The italicized clause is a *closure clause*—and the Cambridge-property response must be amended to account for closure clauses. We may attempt this amendment in one of two ways: First, we could suggest that I also *lack* some positive Cambridge property such as "being in a world with one billion and one ravens" or "being in a world where a non-black raven exists." But, this suggestion will not do, since it re-introduces the problem of truthmakers for negative existentials about properties (for, a truthmaker is required for the fact that I *lack* these properties).

Alternatively, we might instead suggest that, in addition to having the property, "being in a world where there are one billion black ravens", I also have some *negative* property, such as "being in a world where there are *not* any *non-black* ravens" or "being in a world where there are *not* one billion and *one* ravens", etc. So, rather than lacking some positive properties, perhaps I *possess* some *negative* properties. But, this sort of negative property is dubious (as are Cambridge properties in general, but I am ignoring this for the moment). The philosopher who makes the present suggestion would have to accept these properties as *basic*; i.e., irreducible to simpler properties. This is very counter-intuitive. Furthermore, note that this strategy would multiply these bizarre properties *infinitely* (since I would also possess the properties, "Being in a world that lacks one billion and one ravens," and "Being in a world that lacks one billion and *two* ravens," and so on).[79]

A third suggestion might be that the Cambridge property that I really have is "being in a world where there are one billion black ravens, *and there are no other ravens*", or rather, "being in a world where there are *exactly* one billion black ravens". In this way, we have built the *closure clause* into the property. This suggestion is undesirable for the same reasons as the previous. Yet, it is an indicator of what I believe to be the key to finding suitable truthmakers for negative truths—namely, that the

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[79] Armstrong (2004), 55.

closure clause must somehow be incorporated into some portion of reality. It is to this suggestion that I now turn.

2.3 Truthmakers for the Closure Clause

2.3.1 The Need For Closure

We are still looking for that which makes <All ravens are black> true—a difficult task. Even if we had a truthmaker for the existence of *everything* in the world, the task would still not be completed. For instance, even if we had truthmakers for <$X_1 \ldots X_n$ are black ravens>, <Y is a leafy oak tree>, <Z is a striped zebra>, and so on—for *everything* that exists—we would *also* require a truthmaker for <And there is nothing else that exists>. It is this last truth that is the crux of the problem. It is what I have called the closure clause; the "that's all folks!" clause, if you will.

Many philosophers have inferred from this difficulty that closure clauses must invoke *primitives* in some way. I agree. Note that this is *not* to claim that the primitives grounding closure clauses are primitive *truths*—i.e., truths having no truthmakers—for that view is the denial of truthmaker maximalism. To preserve maximalism, it cannot be the *truth* which is primitive. Rather, it must be some other (non-truth-bearing) entity; the idea is that perhaps the closure *itself* is the primitive.

The idea that closure is fundamental in some way is intuitive (or, if you prefer, total-ness, complete-ness, all-ness, etc.). For instance, when I say, "All of the people in this room are philosophers," I establish the truth of this claim in the following way: I examine each and every person in the room and confirm of them, "philosopher." But, my conclusion about "*all*" of the people in the room is possible only because *in advance* I have acknowledged a certain *boundary* or *limit* to the number of people in the room. When I take my survey of the people in the room, it is already assumed that this set, of say 10 people, constitutes the *whole* set—i.e., the *domain*—of *all* and *only* the people in this room. I stipulate the domain of objects. But, this "all-ness" cannot ultimately be grounded in my stipulation. It seems to be *objectively* true, independent of any stipulation, that there

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are exactly 10 people in the room.[80] This limit or all-ness seems to be in place—it is already established—*before I survey the room*. So, what grounds it? That is, what makes it true that <These are *all* of the people in this room>? The answer seems to be that, somehow, the all-ness or totality is already *a part of the world*.

A brief word regarding the proposal for possible worlds as truthmakers: If possible worlds are maximal sets of propositions, each with truth values, then (let's assume) the abstract world that is instantiated (i.e., is actual) is W, and in W, <All ravens are black> is true. Now, one might be tempted to propose that, since *that* is the possible world which is instantiated, then of course <All ravens are black> is true at the actual world. This is confused, however. It is not as if, among the ersatz worlds, one of them has a little tag on it which says, "This one represents the actual world"—and this concrete, actual world is the way that it is because of this tag. The fact about which of the possible worlds is instantiated is grounded *here*, in the *concrete* actual world. In short, the truth of the matter concerning which world is instantiated is true *in virtue of the concrete world*, not vice versa. What the world is like does not depend upon which maximal set of propositions are true. Rather, which maximal set of propositions are true depends upon what the world is like. That is the central tenet of truthmaker theory! So, while, <*If* world W is actual, then proposition <All ravens are black> is true> is true, we still require a truthmaker for the antecedent. Appealing to worlds as truthmakers here would be to get things backwards.[81]

Therefore, since truths depend on what there is *in the world*, let us take inventory of what types of things exist in the world. Plausibly, as far as the concrete world is concerned, there exist objects,

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[80] Yet, could this truth have *something* to do with observers? For instance, one might suggest that the all-ness has something to do with *counterfactuals* regarding observers (e.g., something like, "(1) If a normal observer were to look into the room with 11 people, they would see 11 people. (2) I do not see 11 people; rather, I see 10 people. (3) Therefore the room does not have 11 people."). Yet, we would still require a truthmaker for premise (1); for, "and they would not see 10 people, or 12 people, etc." is implied by that premise. We are back to negative truths.

[81] I will return to this thought in chapter 3. It is, I think, the primary intuition behind my rejection of possible worlds as modal truthmakers.

properties, and concrete states of affairs (i.e., some relational combination of objects and properties). So, it seems that these three items compose the complete list of candidates for primitive all-ness. It comes as no surprise, then, that the three leading proposed truthmakers for negative truths are (1) Wholes as objects,[82] (2) Wholeness properties,[83] and (3) Totality states of affairs.[84] I will now examine each of these proposals in turn. I will not take a stand here on which of these three accounts is the preferred account, but I *will* conclude that something like one of these must be the case.

2.3.2 Objects

We might think that "wholes" exist as something more fundamental than their parts. If these wholes are fundamental entities, then the closure clause can easily be accounted for. But, it seems strange to propose that there are "wholes" that are proper parts of the world—for instance, a fundamental "whole" composed of all and only the actual set of one billion ravens. Jonathan Schaffer proposes that the fundamental entity is the entire world. It is less strange to think that there is an object which we call "the world", and that this object is fundamentally "whole". On that view, there is only *one* truthmaker; i.e., the fundament which is the whole world.

This view has been criticized primarily for two reasons: First, it does not give us what Armstrong calls "minimal" or "relevant" truthmakers.[85] It is counter-intuitive to suggest that the object which makes <There is coffee on the table> true is the same object which makes <There are no unicorns>

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[82] Jonathan Schaffer (2009).

[83] Cameron (2008b).

[84] Armstrong (2004).

[85] Ibid., §2.10.

true. As Merricks suggests,[86] the truthmaker for a proposition must be (in some appropriate sense) the thing that the proposition is *about*.

To Armstrong, we might reply that, while the fact that the world is a whole might be the only truthmaker for <There are no unicorns>, the world need not be the *only* truthmaker for <There is coffee on the table>. The state of affairs of the coffee's being on the table *also* makes it true. So, there is still a relevant truthmaker for the latter proposition. Of course, all negative truths will still have one, and only one, truthmaker on Schaffer's proposal—namely, *the world*. For instance, <There are no unicorns> and <All ravens are black> would both be made true by the world as a whole. But, this is not really so strange when we consider the fact that each of these propositions *do* in fact incorporate an implicit assumption about the entire world. For instance, the former proposition claims that there are no unicorns *in the entire world*, while the latter claims that all of the ravens *in the entire world* are black. So, perhaps it is not implausible that something world-sized really *is* the minimal truthmaker for such truths.

To Merricks, we might reply that his criterion is too strong. Perhaps a proposition's truthmaker need only *involve* the thing(s) that a proposition is about—in which case, we may point out that the world *does* involve the table and the coffee, and furthermore any claim about what does not exist in the world (e.g., unicorns) *is*, in some appropriate sense, a claim about the world. Furthermore, Merricks' requirement that truths always be about their truthmakers is not even obvious. It seems that we must distinguish between an *epistemic* truthmaker (i.e., the thing(s) or evidence by which we come to *believe* or *know* that some proposition is true) and a *metaphysical* truthmaker (i.e., the thing(s) in the world that *make* some proposition true). The world *does* seem to be an appropriate metaphysical truthmaker for both propositions, even though it is not an appropriate epistemic one;

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[86] Merricks (2007), 26.

namely, since we come to know (or *think* we know) the truth of those propositions without surveying the entire world.

The second criticism is that Schaffer's view is derived only by accepting priority monism—the view that the whole which is the world is fundamental and ontologically prior to all of its parts. Schaffer is quick to point out, however, that this view is not as bizarre as one might think.[87] Those who think it strange are likely confusing his proposal of *priorty* monism with *existence* monism. The latter is the view that there is only *one object*. Priority monism, however, acknowledges that parts of the world like people, tables, and chairs are objects that do exist. Schaffer's claim is simply that those things are not ontologically fundamental; and this is a much weaker claim than that made by existence monism.

2.3.3 Properties

Ross Cameron proposes that the world has the property of *being worldly* essentially.[88] In other words, the world is essentially all there is. On this account, we can easily account for the closure clause, in virtually the same way as Schaffer's view that the world is a fundamental whole. There are a two worries regarding this solution: First, what is the truthmaker for <The world has the property of *being all there is*>? As Merricks points out, it seems that "it is *because* there is nothing more that the universe has the property of *being such that there is nothing more in the universe*, if it really does have that property."[89] But, if that is the case, then Cameron's account begs the question, since it posits the very truth that is meant to be established in order to establish itself. In response, Cameron might simply suggest that, whenever there is a collection such that *that collection is all there is*, it is just a brute

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[87] Schaffer (2009), 323.

[88] Cameron (2008a), 295.

[89] Merricks (2007), 62.

metaphysical fact that the collection possesses the basic property of *being all there is* (however strange this might seem).

Another worry is that, since the actual world is essentially *worldly*, then it is metaphysically impossible for there to have been one additional object in it. There could not have been even one more proton. Consider: If there *were* one additional proton, then the object that is the actual world would be a *proper part* of the world that contains everything in the actual world plus one additional proton. But, since the actual world is *essentially worldly*, it cannot be a proper part of a larger world. How could it? It has essentially the property of *being all there is*, which by definition rules out the possibility of there being anything more. Cameron dissolves this counter-intuitive outcome, however, by distinguishing between what he calls *de re* and *de dicto* metaphysical possibility. While it is true that a world containing everything actual plus one proton is not a *de re* metaphysical possibility—i.e., it is not a way that the object which we call *the actual world* could have been—that world (or, at least, a qualitative duplicate of it) *is* a *de dicto* metaphysical possibility; i.e., it is a way that *a* world could be. So the world with the additional proton is metaphysically possible (in the *de dicto* sense of possibility).

I am sympathetic to this idea that there is a difference between *de re* metaphysical possibility and *de dicto* metaphysical possibility. However, in chapter 6 I will argue that only the former (*de re* possibility) constitutes metaphysical possibility, while the latter (*de dicto* possibility) constitutes *logical* possibility. So, ultimately, I will reject Cameron's proposal, since I conclude that *all* of the metaphysical possibilities must be what Cameron calls *de re* metaphysical possibilities—and yet, I wish to allow for the metaphysical possibility that the world could contain one additional proton.

2.3.4 States of Affairs

Armstrong proposes that there are what he calls "totality states of affairs". These are derived by introducing a totality relation (the "Tot" relation, as he calls it), which holds between certain objects

and certain properties.[90] This yields truthmakers for negative truths. For instance, <All ravens are black> is true because the set of one billion black ravens stands in the totality relation to the property of "being a raven". In other words, the sum of those one billion individuals "totals" the property of "being a raven". Furthermore, each of those one billion individuals is black. This view may seem undesirable, however, since it posits a new type of relation between objects and properties. We are quite familiar with the idea that objects *instantiate* properties (a raven instantiates blackness, for instance), but to say that a sum of entities *totals* some property is to introduce an entirely new category of object-property relation—and this is unparsimonious.

More worrisome may be the fact that totality states of affairs are incredibly fragile.[91] For, if *anything* were changed in the world—say, the subtraction of one single electron in a distant galaxy— there would be a different totality fact about the world, and therefore a different object as truthmaker for certain negative truths. But, is this really so counter-intuitive? Consider the table I am sitting at. If I strip a single electron from it, in one sense (functionally) it is still the same table; but in another sense (materially), it is *not* the same table. Materially, then, *all* material objects are incredibly fragile—and totality states are no exception. They seem to be fragile only in something like this latter (mereological) sense.

2.3.5 Conclusion

All three of the above proposals do seem suspect in some way—as if each of the proposals is somehow cheating. For instance, it may seem as if Armstrong's claim is simply that <All ravens are black> is made true by the state of affairs of all the ravens being black, and this does not seem to be much of an explanation. This is not Armstrong's claim, however. His actual claim is that the set of all black ravens "totals" the property of being a raven—and this totality state of affairs is the

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[90] Armstrong (2004), §6.2.

[91] Merricks (2007), 62-63.

truthmaker. Still, this might just seem like a more *complicated* way of cheating—and the same goes for the other two proposals. But, allow me to offer some motivation for the conclusion that one of these three views is correct:

I stated above that truthmaker theorists endorse that view called truthmaker necessitarianism, which states: If X is a truthmaker for P, then necessarily, if X exists, then P is true. Now, consider two possible worlds, w_1 and w_2. David Lewis points out that, if truthmaker necessitarianism is true, then w_1 cannot differ from w_2 *merely* because w_2 has one thing in its domain that w_1 does not.[92] Rather, on truthmaker necessitarianism, *both* worlds must have something in their domain that the other does not—otherwise everything that is true in w_1 would also be true in w_2. Justification: If w_2 merely contained everything from w_1 plus one object, then w_1 would be a proper part of w_2. But, w_1 *necessitates* all of the truths that it makes true, whenever it exists. In that case, everything that is true in w_1 would be true in w_2. This cannot be the case, however. Since w_2 has one object that w_1 does *not*, it is *not* the case that everything that is true in w_1 is also true in w_2 (for instance, if the additional object in w_2 were a unicorn, and there are no unicorns in w_1, then <There are no unicorns> would nevertheless *still be true in w_2*—a mistaken result).

Lewis takes this as evidence that we should *reject* truthmaker necessitarianism in favor of a weaker view called "Truth Supervenes on Being" (TSB). Rather than reject truthmaker necessitarianism, I suggest, however that we interpret Lewis's observation as an exciting discovery which instead *supports* that thesis: Whenever two worlds differ, they must *both* have something in their domain that the other does not. *But, this is exactly the conclusion which theories such as Schaffer's, Cameron's, and Armstrong's deliver.* For, on all three of those views, it is metaphysically impossible for w_1 to be a proper part of another world. I have already discussed this result with regard to Cameron's proposal. Now consider Armstrong's view: If w_1 were (*per impossibile*) a proper part of

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[92] Lewis (2001).

some other world, an incompatibility would occur. For, one of the members of the domain of w_1 is a particular totality fact. But, as Merricks noted, totality facts are *fragile*, such that, in order to be a proper part of some other world, w_1 would first have to be stripped of its totality fact, and the world which w_1 is a proper part of would have some *other* totality fact instead. Similarly, it should be obvious that, on Schaffer's view, something that is fundamentally a whole cannot be a proper part of something else.

But, then, on all three views it is metaphysically impossible for the entire domain of w_1 to be a proper subset of the domain of another world. Lewis takes this as a reason to reject truthmaker necessitarianism. But, why is this outcome a strike against that view? Perhaps the fact that there is a strong intuition that you could take a world and add *just one electron and nothing else* is what drives Lewis to his conclusion here. But, note that, in a sense the necessitarian view *does* permit this. The necessitarian is happy to accept the conclusion that two possible worlds could be *qualitatively* identical, except for the difference of one electron. In that sense, two possible worlds *can* differ (qualitatively) by only one electron. But, in another sense, they *cannot* differ (ontologically) by only one electron (since, e.g., they must also have different totality facts). But, this does not seem so bizarre to me. It is very much like the claim that, while in one sense, removing one electron from a table is merely a change with a difference of one electron, in another sense it is *also* a change with a difference of *sets*; e.g., from *the set* {X} to *the set* {X-1}. Rather than disproving truthmaker necessitarianism, then, we might instead take Lewis as giving a demonstration that closure is necessarily a *part of* each world, and ought to be included in our ontology.

2.4 Primitive Closure Versus Primitive Truth

For those who remain unconvinced, perhaps truthmaker maximalism will seem more appealing when we compare it with the alternative. While truthmaker maximalists are criticized for introducing a dubious primitive entity in order to solve the problem of truthmakers for negative truths (i.e.,

fundamental wholes as objects, basic wholeness properties, or totality as a primitive relation), the opponent of maximalism has a primitive which is far more unpalatable: Namely, *truth*.[93] Perhaps it is a matter of taste regarding which primitive is preferable. But, for comparison, note the following regarding these two options:

1. *Non-Maximalism Arbitrarily Divides Truth Into Two Categories* – It seems undeniable that some truths have truthmakers. For instance, <Sparky exists> is made true by *Sparky*, the concrete object. A non-maximalist, then, must accept that some truths are grounded, while others are not. The non-maximalist typically rejects truthmakers for negative truths and modal truths. In that case, propositions such as <All ravens are black> and <I could have been a truck driver> have no truthmaker. Those propositions just primitively have the property of *being true*; i.e., their truth is *not* grounded. But, this is a bizarre claim. How could it be the case that some truths are grounded while others are not? As Cameron points out, "Either there's something wrong with accepting truths that don't have an ontological grounding or there isn't: if there is, then *every* truth requires a grounding; if there isn't, then *no* truth requires a grounding."[94] The only reason that the non-maximalist seems to have for thinking that negative truths and necessary truths have no truthmakers is that *it is really difficult to come up with satisfying truthmakers for them*. But, that is not a very good reason to reject maximalism. Non-maximalism therefore draws an arbitrary line between grounded and un-grounded truths without providing any compelling justification for the distinction between these two sorts of truths. Maximalism, on the other hand, makes no such distinction. No truth is an exception to the rule. Rather, *all* truths are grounded. *All* truths are true *for some reason*. The latter, I believe, is by far the more plausible position.

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[93] Note that this claim applies only to those who either take *all* truths as primitive, or to those truthmaker theorists who are not maximalists (and therefore take only *some* truths as primitives). It does not, however, apply to that theory, related to truthmaker maximalism, called Truth Supervenes on Being (TSB).

[94] Cameron (2008b), 412.

2. *Ungrounded truths allow for a disconnect between truth and reality* – To claim, as the non-maximalist does, that <All of the people in this room are philosophers> has no truthmaker (since it is a general truth) is to say that there is nothing in the world that makes it true. The proposition is simply primitively true. Admitting this, however, is to admit a *disconnect* between truth and reality. But, if there *were* such a disconnect between truth and reality, then it would be conceivable that the proposition above could come out true *even when the room is full of accountants, or truck drivers, or (worse still) Derrida scholars.* But, that is ridiculous. Clearly, the proposition can *only* come out true when the room is full of philosophers. The truthmaker maximalist has no such problem. On that view, all truths are grounded in reality, such that if reality changes, then so does the set of things that are true.

What I have just stated is a metaphysical problem. But, there is also an epistemological problem for the view that some truths are ungrounded. For, if that were the case, then it would be impossible *even in principle* to discover what is true. If a primitive truth is disconnected from reality, then empirical discovery is a hopeless endeavor. For, we could never observe anything in reality that would give us knowledge of it. I could be observing a room containing ten accountants, for instance, and for all I know it is true that the room is full of philosophers. This is an incredibly undesirable outcome.

3. *Primitive totality relations are not really that bizarre* – Maximalism is accused of introducing suspicious primitives, but such a move is not as strange as its opponents make it out to be. Recall the stipulation made regarding the room full of ten philosophers. It seemed intuitive to assume the existence of a cap or limit to the number of people in the room prior to assessing the truth of the proposition, <All of the people in this room are philosophers>. That is, the domain of the room is set in advance, such that one implicitly assumes, "I am talking about all and only the ten people in this room," and then assesses which propositions are consistent with this. The totality seems to be a given, prior to the truth of the proposition, rather than the other way around. One does not stipulate

the truth, <All of the people in this room are philosophers> and then assess whether or not reality conforms to this truth. It seems, rather, that totalities are somehow already *in the world*, prior to the truths about them—and the view which places some form of totality as a primitive in its ontology is the only view that accurately achieves the direction of fit from world to truth. To posit truth as a primitive, prior to or independent of totality, is backwards.

4. *The choice between primitives is nearly identical* – Since it is undesirable to have more primitive truths than is necessary, I would encourage the proponent of them to take only *one* truth as a primitive: Namely, something like, $<A_1, A_2, \ldots , A_n$ are *all* the things that exist>, a totality proposition. Consider the proposition, <There are no unicorns>. The primitivist may be able to avoid the assumption that this proposition is primitively true. For instance, its truthmaker may be something like the sum of the truthmakers for $<A_1$ exists and is not a unicorn>, $<A_2$ exists and is not a unicorn>, etc. (via their incompatibilities with the property of *being a unicorn*, for instance) *and* the truthmaker for the totality proposition that I just gave. Of course, <There are no unicorns> will still be *ultimately* ungrounded, since that totality proposition lacks a truthmaker. Yet, <There are no unicorns> would be at least *partially* grounded. However unattractive the primitivist will find the suggestion I have just made, my aim here is only to point out how small the difference between maximalism and primitivism really is; for, if they *wanted* to, the primitivist could get by with only one primitive truth (i.e., the totality proposition). But, the maximalist can get by with only one brute fact (i.e., the totality fact). But, these primitives are nearly identical. Why then be so reluctant to embrace totality as a primitive? If the choice is between one primitive and another, it seems that a primitive totality is preferable to a primitive truth, since, as we have seen, doing so does not arbitrarily divide truths into two categories, nor does it create a disconnect between truth and reality.

If the reader is *still* unconvinced by the above,[95] then there is one last line of defense that the truthmaker maximalist may offer. Namely, the following: "What that truthmaker is [for negative truths], I don't claim to know. All I claim is that there must be one."[96] Call this position "sad truthmaker maximalism", after the following excerpt from Molnar: "We need positive truthmakers for negative truths but we have no good theory of what these might be. This is the sad conclusion …"[97] Sad truthmaker maximalism may be ultimately unsatisfying, but it is nevertheless coherent to claim (just as many scientists do about several of their hypotheses) that, while we do not presently have any conclusive evidence for the truthmakers in question, we hold out hope for some future proposal which confirms their existence.

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[95] For instance, Trenton Merricks seems to have the opposite intuition as I do, writing that "a primitive (and monadic and non-intrinsic) *being true* is preferable to primitive (and monadic and non-intrinsic) properties like *being such that there is nothing more in the universe*." [(2007), 187]

[96] Rodriguez-Pereyra (2005), 31.

[97] Molnar (2000), 85.

CHAPTER THREE

ACTUAL NON-ERSATZ MODAL TRUTHMAKERS

Introduction

In the previous chapter, I provided motivation for truthmaker theory. The topic of the present chapter will be that of truthmakers for *modal* truths—i.e., truths about metaphysical possibility and necessity. Given that modal truths have truthmakers, I will argue that those truthmakers must be actual, non-ersatz entities (ANT's). In §1, I will briefly motivate that view. In §2, I will argue that those views which endorse any modal truthmakers *other than* ANT's are unsatisfactory. Finally, in §3, I will argue that ANT's will only serve to ground modal truths if they are *causal*.

1 The Actualist Non-Ersatzist Intuition

As the name suggests, there are two theses which any "actualist non-ersatzist" endorses; namely, actualism and non-ersatzism. Given that there are modal truths—i.e., truths about what is possible, and what is necessary—I believe that the *ground* of these truths must be both actual and non-ersatz (roughly, non-*abstract*). Regarding non-ersatzism: It seems obvious that at least *some* truthmakers are non-ersatz (roughly, concrete) objects or states of affairs. Consider <Fido exists>, for instance. Surely the truthmaker for this proposition involves the dog Fido, the concrete object. Likewise, it seems uncontroversial that the truthmaker for <Fido is sitting> is the state of affairs of Fido, the concrete object, being in the sitting position. A great many truths about Fido, in fact, *involve Fido the concrete object*. It would be quite odd then, if, as soon as we move from propositions about what Fido *is* doing or what he *has* done to truths about what he *could* be doing or *could* have done, it turns out that the truthmakers suddenly do not involve Fido, the concrete object at all! But, this is exactly

what many philosophers claim. For instance, some ersatzers suggest that all of the modal claims about Fido are true in virtue of an abstract object which is an infinite, maximally consistent set of propositions. The other intuition behind non-ersatzism is a naturalist one, which is the idea that *concrete* reality is all that *really* exists—if there *are* abstract entities (e.g., propositions, numbers, etc.), then they are not independent entities, but are rather grounded in concrete ones. This is David Armstrong's view, for instance.[98] According to the naturalistic intuition, if we can explain something without appeal to abstract entities, then we ought to do so. In the present work, I will propose that this goal (of finding suitable non-ersatz truthmakers which have just as much explanatory power as ersatz ones) is possible.

Regarding actualism: The truthmaking relation is a relation between the truth of a proposition and some existing thing which is the ground of that truth. But, then, truthmakers are *things that exist*. A common intuition is that all things that exist are actual. Therefore, all truthmakers must be actual objects. Furthermore, as I just pointed out, it seems obvious that at least *some* truths are grounded in something actual. This goes for modal truths as well. Consider the modal proposition, <I could have been a truck driver>, for example. This proposition is at least partially *about myself*. It is intuitive to think, then, that whether or not the modal claim comes out true will (at least in part) depend upon *me*. For instance, whether or not the claim is true might depend in part upon my *abilities*. Perhaps its truth is dependent upon other actual things as well, such as the previous invention of the wheel, and automobiles, and the nature of combustion (for engines), gravity, friction, etc. So, intuitively, the truth of at least some modal truths depends upon actual objects. Here, I will argue that *all* modal truths depend upon something actual.

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[98] See, for instance, his theory of the existence of numbers in: Armstrong (1989), §9.2.

2 Against Non-ANT Accounts of Modal Truthmaking

2.1 Against Subjectivist Accounts

Subjective accounts of modal truthmaking, whether abstract (e.g., Rosen)[99] or concrete (e.g., Churchland)[100], very clearly do not give us viable modal truthmakers. Here, I will only attack Rosen's ersatz version of fictionalism, since these same criticisms apply to the non-ersatz version as well. Furthermore, while Churchland may propose that *possible worlds* are mind-dependent, it is not clear that he believes these to be the modal *truthmakers* (though we can imagine someone suggesting this).

Rosen's claim is that $\langle\Diamond P\rangle$ is true if, and only if, $\langle$According to PW, P*$\rangle$ is true—where PW is the fiction of possible worlds, and P* is the (fictional) truthmaker for $\langle\Diamond P\rangle$, which the possible worlds theorist gives us (e.g., P's occurrence, or obtaining, etc., at some possible world). Thus, the modal truthmakers on Rosen's view are *fictions*. This is an *ersatz* view, since Rosen admits that fictions turn out to be abstract entities. He writes,

> It may well be that in talking about stories, theories, and other representations as he does, the fictionalist takes on a commitment to these entities. And … it is conventional to regard these representations as *abstract* entities …[101]

This is also a *subjective* view of modal truthmakers, regardless of whether or not the fictional entities in question exist objectively. If fictions are mind-dependent entities, then fictions are obviously subjective entities. This is unacceptable. Presumably, the proposition $\langle$Human beings could exist$\rangle$ was true one billion years ago, for instance. However, if the modal truths are mind-dependent, then this proposition would not have had a truth value (since there were no minds one billion years ago—and therefore no modal fictions). Indeed, on fictionalism, there were no modal

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[99] Rosen (1990).

[100] Churchland (2002).

[101] Rosen (1990), 338.

truths until the 1970's when the possible worlds framework was introduced! This is clearly mistaken. Therefore, our modal truthmakers should be mind-*independent* entities.

On the other hand, even if the fictions themselves are mind-*in*dependent entities—i.e., they exist objectively, and are just "out there" to be discovered—Rosen's view is still a subjective one. Rosen chooses Lewis's non-actualist, non-ersatz model of possible worlds as the fictions which serve as his PW. However, he could have just as easily chosen Plantinga's actualist ersatz model, or some other (indeed, any number of unproposed possible worlds frameworks). Surely, if Lewis's fiction is "out there" to be discovered, then Plantinga's fiction is as well (and countless others). But, there seems to be no objective criterion for determining which of these fictions should serve as the modal truthmakers. Rather, that choice seem to be a subjective one. Regarding these competing modal fictions, which he calls "the modal and … the schmodal," Rosen admits:

> They are both facts about the content of certain false stories [i.e., modal fictions]. And unless one of these stories has some *authority* which the other lacks, the fictionalist's concern may seem purely arbitrary. … I know of no simple answer to this challenge.[102]

2.2 Against Non-Actualist Accounts

2.2.1 Introduction

According to non-actualism, the modal truthmakers exist *beyond* our *outside of* actuality. On the non-ersatz variety of this view, these truthmakers are non-representational entities which are the *same in kind* as the actual world (i.e., concrete). For instance, David Lewis proposes that there are many concrete, spatio-temporally detached *worlds* beyond our own. A truthmaker theorist might take these worlds to be the *truthmakers* for true modal propositions. But Lewis's worlds (or any other sort of non-actual entities) cannot be the modal truthmakers.[103]

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[102] Ibid., 353.

[103] Here, I will criticize the non-ersatz version of non-actualism (i.e., Lewis's version), but not the ersatz version. Likewise, in the section against actualism, I will criticize the ersatzist version (i.e., Plantinga's version), but not the ersatz

2.2.2 The Actuality Objection

According to non-actualism, there are things that exist which are not a part of our own spatio-temporally continuous world. The claim is that they *exist*, but they are not *actual*. This seems to many like a misuse of the term "actual"; for it is generally thought that "actuality" *just is* the set of all of the things that exist. This leads some to criticize Lewis, since his assertion that the possible worlds are non-actual only seems to be the result of a non-standard use of the term "actual". For, according to Lewis, "whatever is actual" is *not* synonymous with "whatever exists". Rather, it is synonymous with some indexical phrase, such as, "whatever is spatio-temporally continuous with myself". But, this seems mis-guided. Michael Jubien expresses this sentiment as follows:

> [I]t seems obvious that any other realms that happened to exist would just be scattered parts of the *actual world*, not entire *worlds* at all. They'd be *actually* existing entities. It would just happen that physical reality was fragmented in this remarkable but modally inconsequential way. There would be no call for restricting our notion of actuality to the connected realm we happen to inhabit, nor for viewing the other realms each as "actual" with respect to itself but to the exclusion of the others, nor for viewing individual entities in other realms as modally relevant "counterparts" of entities in our realm, nor any of the like.[104]

The intuition just stated is that, if there *are* other universes, then they too are a part of actuality—even if they are spatio-temporally discontinuous with our own universe. But, as Lewis himself admits, if all of his concrete "worlds" were just fragmented portions of one mega-actuality, then they could not plausibly serve as modal truthmakers, for in that case, metaphysical possibility would refer not to ways one single (spatio-temporally continuous) universe could be, but rather to *ways a mega-actuality could be*—and Lewis's framework is simply not equipped to account for this sort of modality.[105] Note that Lewis's definition of actuality is problematic in the *other* direction as well, since

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version. It should be apparent, however, that ersatzist non-actualism is even worse off than either Lewis's (non-actualist) or Plantinga's (ersatzist) view, since the criticisms of *both* of those views apply to it.

[104] Jubien (2007), 100-101.

[105] Lewis (1986), 100.

it rules out the possibility of "island universes"—i.e., universes which contain spatio-temporally discontinuous regions within themselves.[106]

2.2.3 The Plenitude Objection

The plenitude objection stems from Lewis's reductivist approach; i.e., the fact that he analyzes modal propositions in terms of non-modal ones. On Lewis's account, <Possibly, P> gets analyzed as <At some world, P>. The worry is that Lewis cannot guarantee that there exists a possible world which corresponds to every metaphysical possibility. Jubien expresses this worry nicely:

> For all we know, there are just two such realms, or twenty-seven, or uncountably many, or even set-many. Suppose there are just a few, but that all of them happen to include stars. How plausible is it to think that if this is how things really are, then we've just been *wrong* to regard the existence of stars as contingent?[107]

It seems that either Lewis must introduce some principle which guarantees that there are "enough" worlds, or simply *hope* that there are enough. Lewis opts for the former approach, postulating his principle of recombination, which states that, for any re-combination of particulars and properties, there is a world where that re-combination occurs.[108] The first problem with this approach is that, if one takes the Lewisian system as providing modal *truthmakers*, then the principle of recombination alone would suffice—in which case, possible worlds turn out to be extraneous entities with regard to the project of truthmaking. This seems to be David Armstrong's reason, for instance, for jettisoning possible worlds altogether.[109] Armstrong's view makes use of this Humean principle but carves away the worlds themselves as superfluous entities. Another worry is that Lewis's approach endorses Humeanism—the thesis that there are no necessary connections between

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[106] Ibid., 71-72.

[107] Jubien (2007), 99-100.

[108] Lewis (1986), 87-88.

[109] Armstrong (1989).

distinct existences—though this thesis is in direct tension with truthmaker theory (which proposes that truthmakers *necessitate* truths).

But, regarding plenitude, the main problem with this approach is that, once the principle of recombination is introduced, there may be *too many* worlds. For instance, <Nothing is both all-red and all-blue> seems to be a metaphysically necessary truth. However, it seems that Lewis's framework cannot guarantee that there are no worlds where there is an object that is both all-red and all-blue (or one that is perfectly round and perfectly square, etc.)—at least, not while maintaining the reductive analysis of modal propositions. He could, of course, assert that the only worlds which exist are those which are the *possible* re-combinations—but then, our modal notions are no longer analyzed in terms of non-modal ones. To avoid this unfortunate result of too many worlds, while remaining a reductivist, it seems that Lewis must fall back to the *second* option: Simply *hope* that the ontology of worlds is neither too small nor too large. According to Sider,

> an adequate non-modal definition of 'possible' can be given, *if* Lewis's ontology is indeed correct. … So: if reality is as Lewis says it is then a reductive analysis of modality is possible. … It is certainly true that there are modal conditions Lewis's multiverse must obey if his analysis is to be materially adequate … But the existence of this modal condition of material adequacy does not compromise the genuinely reductive character of analysis.[110]

What Sider seems to be saying here is that Lewis's account *is*, strictly speaking, reductive (since it analyzes modal claims in terms of non-modal ones). However, only *if* there is a world for every possibility (and none for any impossibility) will the account adequately underpin metaphysical possibility. But, this is to suggest that Lewis gets his reduction only at the expense of reducing modal truths to mere accidents (or worse, to falsehoods if the account turns out to be inadequate). As Ross Cameron points out:

> If Lewis's analysis is right, then if there turns out to be a world with a round square as a part, then that is not for it to turn out that there is an impossible world; it's for it to turn out that

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[110] Sider (2003), 20.

round squares are in fact possible after all, since to be possible just is to be true at some world, if the analysis is correct.[111]

The problem is that we seem to have some notion of what things are possible or impossible *prior* to reading Lewis. But, on Lewis's account, these pre-theoretic intuitions are no indication at all of what is possible. For, as Cameron just pointed out, though we *think* that we know that <There are no square circles> is necessarily true, it may in fact turn out not to be (i.e., if there is a Lewisian world with a square circle). Like Sider, Cameron stresses that this fact does not prove that Lewis's account is non-*reductive*, however:

> Lewis's analysis of what possibility is needn't ensure that there is the right kind of correspondence between what worlds there are and what we pre-theoretically take to be possible. There simply needs to *be* such a correspondence.[112]

However, as we shall see in the next two sections, the result of such a framework is modal skepticism.

2.2.4 The Metaphysical Accident Objection

In the previous section, we saw that Lewis can only achieve a reductive analysis of modality that is materially adequate *if* all and only those non-actual worlds exist which correspond to our pre-Lewisian notions of what is possible. If, for instance, there is no world where a counterpart of mine is not a truck driver, then (counter to our intuitions) it will turn out that <I could have been a truck driver> is false. On the other hand, if there is a world where there are square circles, then (counter to our intuitions) it will turn out that <There could not be a square circle> is false. But, then, the possibilities and necessities are merely the result of metaphysical *accidents*. For, if <□P> is true merely in virtue of the fact that *in every possible world, P*, and if what exists in each of those worlds is just an accident of reality, then it seems that "what passes for 'necessity' is in effect just a bunch of parallel

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[111] Cameron (2012), 8.

[112] Ibid., 10.

'contingencies'."[113] For instance, consider the example about stars in the previous section. If every world *happens* to contain stars, then it turns out that the existence of stars is a metaphysical necessity—and this is extremely counter-intuitive.

2.2.5 The Epistemological Objection

Building upon the previous two sections, we can see that, if the modal truthmakers were non-actual, non-ersatz entities, there would also be a disconnect between the modal truthmakers and our modal *knowledge* (since the truthmakers are, by definition, spatio-temporally disconnected from us and therefore unverifiable). If the metaphysical truths do happen to line up with our pre-Lewisian intuitions of what those truths *are*, it will, as I claimed in the previous section, merely be the result of a metaphysical accident. The conclusion is that, since we have no access to these worlds, our modal *knowledge* (if we have any at all) is also the result of a metaphysical accident; and this is modal skepticism.

This sounds very much like the suggestion of those who claim that knowledge, if it ever occurs at all, is *always* an accident. They argue as follows: Whenever I claim to know that P, I am claiming to have a justified, true belief that P. But, since the truth or falsehood of P is inaccessible to me—for instance, because, for all I know, I might be a brain in a vat—it turns out that, whenever I claim to know that P, sometimes I *do* know that P (i.e., when P is true) and sometimes I am mistaken and do *not* know that P (i.e., when P is false). The best we can do from our position is *speculate* about the true nature of reality, and if I ever *do* have knowledge about reality, it is nothing more than a mere accident. But, this is skepticism; and Lewis's account of modality is exactly like this. For, on his view, the best we can do is speculate about the true nature of the modal reality—but, for all we know, some of the other possible worlds might have square circles in them, or all of them might contain

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[113] Jubien (2007), 105.

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stars, etc. So, Lewis's view results in modal skepticism. Therefore, while I admit that Lewis's account *may* be reductive, I contend that the price of this reduction is too high.

Lewis's response to this is, I think, a good one, though not one that is available to those who take his worlds to be the modal truthmakers. For Lewis, the set of possible worlds is just the set of every recombination of all the actual objects and properties, taking logical consistency as the only restriction upon the recombining. Our *knowledge* of modal truths stems from something like conceivability, restricted only by this principle of recombination.[114] This is not to say that we *access* or *see* worlds via conceivability (as if they were something to be viewed with a powerful telescope). Rather, this is merely the claim that—since we know *a priori* that all metaphysical possibilities are logically consistent (i.e., the law of non-contradiction is necessarily true), and that the principle of recombination is necessarily true (i.e., that Humeanism, or the view that there are no necessary connections between distinct existences, is necessarily true)—then, whenever we properly conceive of a scenario that is any logically consistent recombination of actual objects and properties, we are properly conceiving of a scenario that is metaphysically possible.

The problem with this approach is that it renders the role of possible worlds entirely superfluous to the project of modal truthmaking. For, the suggestion here is that the possibilities are grounded in *a priori* axioms, along with what is actual. But, then, what role is left for the *non*-actual to play regarding the project of modal truthmaking? Furthermore, the project of truthmaking for Humeans does not even seem to be a coherent one—since truthmaker theory assumes the denial of Humeanism's central premise (i.e., necessary connections between distinct existences).

So, why is the present view even a contender? Answer: As I will demonstrate below in section 2.4 of this chapter, it seems that there is some confusion between what sorts of entities could serve as a model for a proper semantic *analysis* of modal claims versus those that could serve as

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[114] Lewis (1986), §§2.4 and 1.8.

appropriate modal *truthmakers*. Non-actual worlds may serve well in the former arena, but not the latter—and it is only the conflation of these two terms which makes it seem otherwise.

2.2.6 The Indiscernible Worlds Objection

Another worry, related to the plenitude objection, goes as follows: It seems like it *should* be an open question for Lewis as to whether or not there are duplicate worlds (i.e., worlds that are qualitatively identical to one another). The principle of recombination does not rule out the possibility of *duplicates*. Indeed, Lewis explicitly claims to be agnostic on the subject.[115] But, then, the following absurdity results: If there does exist a qualitative duplicate of the actual world, then the proposition, <It is possible for everything to be as it is while the actual world is not actual> would be true.[116] Here is another worry: Certainly there is presently some objective truth of the matter as to whether or not there are duplicates of the actual world. For instance, perhaps <The actual world has zero duplicates> is true. But, what are we to make of the following proposition: <The actual world could have had a duplicate>? The proposition is either true or false, and therefore either it or its negation requires a truthmaker. But, if the worlds *themselves* are the modal truthmakers, then there are no available truthmakers to make true these sorts of meta-modal truths. The Lewisian framework is simply not equipped to make sense of such truths.

2.2.7 The Parsimony Objection

To claim that the modal truthmakers are non-actual, non-ersatz entities is to claim that, for every unactualized possibility, there is some concrete object outside of the actual world which makes it true that that state of affairs is possible. But, then, there must be a *vast* number of concrete objects existing beyond our own universe. Most find this result unpalatable. Lewis re-assures us, however,

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[115] Ibid., 87.

[116] See Pruss (2011), 77.

that, while he accepts the existence of a great *number* of non-actual entities, these entities are at least the same *in kind* as the (roughly, concrete) things that make up our own universe. He asks the reader to consider what sort of thing the actual world is, and then explains that

> other worlds are more things of *that* sort, differing not in kind but only in what goes on at them. … [Therefore] My realism about possible worlds is merely quantitatively, not qualitatively, unparsimonious. You believe in our actual world already. I ask you to believe in more things of that kind, not in things of some new kind.[117]

Nevertheless, the view is still clearly lacking in *quantitative* parsimony.

2.2.8 The Humphrey Objection

The following objection to non-actual modal truthmakers originates in the works of Plantinga and Kripke.[118] Now, on a non-actualist account, strictly speaking, no individual exists in more than one world—rather, they have "counterparts" in other worlds. These counterparts are individuals that are numerically distinct, but qualitatively similar to the individuals in the actual world. Therefore, on the present account of modal truthmaking <I could have been a truck driver> comes out true *because* I have a counterpart in another world who does in fact drive trucks. The present accusation is that what my counterpart in some other universe *does* do is irrelevant to the truths about what I, in the actual world, *could* do. The objection was originally stated as follows:

> The counterpart of something in another possible world is *never* identical with the thing itself. Thus if we say 'Humphrey might have won the election (if only he had done such-and-such),' we are not talking about something that might have happened to *Humphrey* but to someone else, a "counterpart." Probably, however, Humphrey could not care less whether someone *else*, no matter how much resembling him, would have been victorious in another possible world. Thus, Lewis's view seems to me even more bizarre than the usual notions of trans-world identification that it replaces.[119]

There are two ways that we might interpret this objection:

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[117] Lewis (1973), 87.

[118] Plantinga (1974), §6.7; Kripke (1980), 45n.

[119] Kripke (1980), 45n.

Two Interpretations of the Humphrey Objection
(1) Possible worlds are *semantically* inadequate; i.e., they do not provide an adequate *analysis* of modal truths.
(2) Possible worlds are *metaphysically* inadequate; i.e., they do not provide adequate *truthmakers* for modal truths.[120]

Regarding (1), the general accusation is that, when we make claims about what we could have done, we take them to be *about ourselves*. However, this is apparently not what these modal claims are about on Lewis's view. Consider <I could have been a truck driver>. According to counterpart theory, this proposition is not about me at all; rather, it is about someone else. Sure, it is about someone who is quite similar to myself in the relevant respects, but someone else all the same. Thus, it is said, the possible worlds analysis of modal propositions does not accurately capture what we *mean* by those propositions. There is a great deal of literature addressing the semantic criticism.[121] But, that version of the objection is not my aim here.

The criticism I want to make is the latter, (2). It may be that, even if it turns out that a possible worlds analysis accurately captures the *semantics* of modality, the Lewisian worlds cannot ground the *metaphysics* of modality; namely, as I will now argue, they cannot be the entities that make modal truths true.[122] First note that I am *not* making the claim that the Lewisian worlds, if they existed, would not make *any* modal truths true. Given that <P> entails <◊P>, it seems that, in *some* sense, <Possibly, there are unicorns> is made true by the world at which there are unicorns. But, how should we interpret this outcome? Now, if the actuality objection above succeeds (such that the spatio-temporally isolated worlds are part of one single mega-actuality), then the existence of

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[120] See Kalhat (2008), 505. Divers also suggests multiple interpretations: "Is it that CT [Counterpart Theory] is supposed to be revealed as a failed attempt at conceptual analysis, a failed account of truthmaking or ontological identification, a failure in some other respect that might be counted under the objectives of semantic theorizing, some combination of the above or all of the above?" [Divers (2002), 132-133]

[121] See: Feldman (1971); Hazen (1979); Forbes (1982); Forbes (1983); Ramachandran (1989); Forbes (1990); Divers (2002), §8.1; Sider (2003), §3.10; Fara and Williamson (2005).

[122] Note that the metaphysical interpretation of the criticism likely does not capture the original intent of Kripke and Plantinga; however, I think it is easy to see that their criticism can be straightforwardly adapted for this purpose.

unicorns in some other world would make <Possibly, there are unicorns> *trivially* true since, in that case, there would *actually* be unicorns (in the mega-actuality).

But Lewis wishes to avoid this sort of trivial outcome. Lewis *agrees* that, if all of the worlds were part of one mega-actuality, they would be modally irrelevant.[123] So, he retains the axiom that <P➔◇P>, but parses out reality into the actual and the non-actual; or, the actual world and the possible ones. Stalnaker writes of Lewis's view:

> Modal truths are made true by the same kind of correspondence with reality that makes empirical claims true; the difference is that contingent truths must be made true by local circumstances, while claims about what is necessary or possible concern reality as a whole.[124]

So, Lewis avoids the trivial outcome because the other worlds are *non-actual*. Thus <Possibly, there are unicorns> is not trivially true because there are *actually* unicorns (in the mega-actuality). Rather, it is true because there are non-actual *possible* unicorns (in other *possible* worlds).

First, as I have just stated, Lewis *only* avoids the trivial outcome by parsing out reality as he does. But, then, he seems to achieve the desired result by simply *calling* the other worlds non-actual, "possible" worlds. As Jubien points out:

> For all we know, there really do exist what we may *neutrally* call detached concrete *realms*. But as soon as we start calling them *possible worlds*, we beg the question of their relevance to our prior notion of possibility.[125]

The point just raised is closely related to the actuality objection. But, here is another worry: It seems that the existence of a non-actual unicorn at some world—say w_3—only makes true the proposition <There could exist unicorns *at w_3*>. It does not seem to make true the proposition <There could have been unicorns *at w^** (i.e., the actual world)>. For, why should something that exists in some other spatio-temporally detached realm make it true that this same thing could *possibly*

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footnotes

123 Lewis (1986), 100, 112.

124 Stalnaker (1995), 337.

125 Jubien (2007), 99.

exist in our own spatio-temporal realm? Lewis' position here is akin to the conclusion that the

existence of humans on Earth makes it possible that humans could have existed on Saturn, and the

existence of rings around Saturn makes it possible that there could have been rings around Earth.

But, this seems confused. Ought not possibility instead be grounded in each world's (or planet's) *own*

merits? Jubien (once again) presents this intuition very clearly:

> [I]magine, if you will, that there's a distant but very similar planet in our own universe where someone very much like yourself is a playwright and not a philosopher. How plausible would it be to pin the possibility of your having been a playwright on this far-off circumstance? If you find it as implausible as I do, then it should seem all the more implausible if such an individual inhabits an inaccessible physical region instead of a merely distant one. … I believe the possibility of your having been a playwright has nothing to do with how people are on other planets, whether in our own or in some other realm. It has only to do with you and the relevant property.[126]

Consider the Humphrey scenario, specifically: On the present view of modal truthmaking, it is

the fact that someone a lot like Humphrey *does* win the election in some *other* realm which makes it

true that the *actual* Humphrey (in *this* realm) *could have* won the election. But, the existence of the

other Humphrey seems to have nothing to do with what is possible for our actual Humphrey.

Indeed, in some sense, it seems as if Humphrey *could not have* won—for, all individuals are, strictly

speaking, *world-bound* on Lewis' view. That is, in some sense, it is impossible for Humphrey

himself—i.e., *this very man*—to have won the election, since the only thing that the actual Humphrey

can do is lose (just as the only thing that some of his counterparts can do is win). Peter Forrest notes

this ultra-deterministic aspect of Lewis's theory:

> Lewis is committed to something *stronger* even than hard determinism. He is committed to the necessitarian thesis that it is *logically impossible* for Hobson to have [done X]. For, on Lewis' thesis, there is no non-actual possible world at which Hobson exists; so, a fortiori, there is no world at which he [does X]. … Lewis might reply that all there is to the possibility that Hobson [does X] is the existence of a counterpart of Hobson who [does X]. I find that implausible.[127]

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[126] Jubien (2007), 100.

[127] Forrest (1986), 23.

The objection I am raising here is partially dependent upon my own peculiar notion of metaphysical possibility which I will defend in chapter 6—which is the idea that the metaphysical possibilities are the *de re* possibilities for *this* object called the actual world. But, most of the force behind the objection comes from an intuition that is pervasive in the philosophical literature.[128] The common worry is roughly that—grounded upon the same intuition which was appealed to in the actuality objection, above—the truthmaker for a proposition about what could have happened to Humphrey must (at least partially) involve the thing that the proposition is *about*; i.e., the truthmaker must (at least partially) *involve Humphrey*. But, on the Lewisian account, the truthmaker does not involve Humphrey at all. Rather, it involves Humphrey's *counterpart*.

Lewis's reply (if he were endorsing truthmaker theory) would be that the truthmaker *does* involve the thing that the proposition is about. First, note that, what my counterpart *does* do in another world *is* a truth about me simply in virtue of the fact that it is a truth about a counterpart *of me*. But, more importantly, if we were to examine Lewis's theory of the *analysis* of modal propositions, we would see that he is proposing that <Humphrey could have won the election> is *analyzed as* <At some world, Humphrey's counterpart wins the election>. In other words, *what it means* to say that Humphrey could have won the election *just is* that his counterpart wins the election. As Sider puts it, "according to counterpart theory, the property of possibly winning *is* the property of having a counterpart who wins."[129] But, if <Humphrey could have won the election> does in fact *just mean* <Humphrey's counterpart wins> then, when the latter is made true in another possible world by the winning Humphrey-counterpart, so too is the former modal proposition made true. Thus, the entire Humphrey objection just begs the question against Lewis.

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[128] See Forrest (1986), 23; Armstrong (1989), 17-18; Merricks (2003), 522; Dodd (2007), 385, n3; Kalhat (2008), 506-7.

[129] Sider (2006), 1. See also Hazen (1979), 321-322; Lewis (1986), 196; Rosen (1990), 350-353; Divers (2002), §8.1; Sider (2003), 21.

It looks as if we cannot ignore the semantic aspect of Lewis's proposal, then. For, on a Lewisian view of modal truthmaking, the analysis of modal concepts *completely informs the metaphysics*; namely, by stipulating in advance the meaning of our modal claims. But, is this a desirable outcome? It seems to me that our metaphysics should inform our semantics, not the other way around. I suggest that the better practice is to begin the investigation of modal truth by searching for suitable, probable truthmakers, and then basing our analyses on whatever ontology our conclusion about modal truthmakers commits us to. So, I propose that we presently set aside the proposed Lewisian analysis of modal concepts, and simply examine the plausibility of non-actual, non-ersatz objects as modal truthmakers *on their own merits*.

As I see it, the best reason for thinking that a winning counterpart of Humphrey would make it true that Humphrey could have won the election is that the counterpart relation guarantees it, *since it is a similarity relation*. In other words, if my counterpart does X, then I (clearly) *could* do X: After all, he and I are *so similar*. The intuition here is that, what my counterpart *does do* is a truthmaker for what I *could do* simply in virtue of the fact that he and I are related by a similarity relation. But why would any sort of similarity be modally relevant? It is quite obvious that, if I have an identical twin (i.e., someone qualitatively similar to me in every way), then, when my twin exists, this does not make it true that I exist. When my twin is sitting, this does not make it true that I am sitting. When my twin enjoys cucumbers, this does not make it true that I enjoy cucumbers. Why, then, should it be the case that when my twin becomes a truck driver, this should make it true that I *could* have become one?

This last example is different than the ones preceding it, in that it is *modal*. But, are the *modal* inferences drawn from observing my twin somehow different than the *non-modal* ones? Certainly, if I have an identical twin, when my twin is sitting, this *does* in *some* sense seem to justify the conclusion that I *could be* sitting. When my twin enjoys cucumbers, this gives us *some* reason to think that I *could*

enjoy cucumbers. But, it does not seem to be my twin *per se* that grounds those modal truths about

myself. Jubien writes,

> It simply doesn't follow from A's nonmodal similarity to B (no matter how impressive it
> might be) that A makes something possible *for B*. If someone similar to Humphrey won, that
> nicely establishes the possibility of someone's winning who is *similar* to Humphrey. But we
> mustn't confuse this possibility with the intuitively different possibility of *Humphrey's*
> winning. For the former possibility to establish the latter requires a *further* hypothesis (or
> presupposition).[130]

The further hypothesis we need, I think, is that: When A and B are similar in the relevant ways,

B's *actually* doing X is an indication that A *could* do X because, due to their similarity, whatever it is

about B that makes B capable of doing X must be something that A shares—and this makes it such

that A is *also* capable of doing X. In other words, because B and A share the relevant features or

abilities, B and A are capable *of the same things*. But, then, what B does do is not the *metaphysical*

truthmaker for truths about what A could do. Rather, what B does do is merely an *epistemic*

truthmaker; that is, if B does X, then this is a piece of evidence which *justifies* the claim that A could

do X. But, justification is not truthmaking. The *truthmaker* for what A could do has to do with *A*

itself.[131] Pruss affirms this intuition exactly when he argues that:

> discovering facts about other concrete universes would not tell us anything about modality.
> Actually, *epistemically* it would provide *some* modal information. That someone very much like
> me becomes a biologist in some world is very good evidence for the claim that *I* could have
> become a biologist. … What discovering facts about other concrete universes would not do,
> I will argue, is provide *truthmakers* for modal claims.[132]

Jacobs says something similar:

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[130] Jubien (2007), 102.

[131] I will reiterate this point once more: It seems very reasonable to think that, if there were another concrete world qualitatively identical to this one up to the present, and my twin (or, counterpart) in that world did X at a time corresponding to tomorrow, I would be justified in thinking that I could do X tomorrow. However, it is important to note that he is not the *truthmaker* for that possibility concerning me. Rather, my counterpart's actions are informative only insofar as I could, by observing him, *figure out what I am capable of* (since he and I possess the same capabilities).

[132] Pruss, 70n.

My concrete counterpart's driving a truck is relevant because we are similar. He is not relevant in virtue of being in an alternative possible world, but because we have the same properties, capacities, and powers, and people like that can drive trucks.[133]

My claim in the final section (3.2) of this chapter will be that the truthmakers in question are something like the relevant *dispositional properties* that A possesses. For instance, my twin justifies conclusions regarding possibilities about myself *only insofar as he and I share the relevant dispositional properties*.

2.3 Against Ersatz Accounts

2.3.1 Introduction

According to actualist ersatzism about modal truthmakers, the modal truths are made true by abstract, representational entities that exist in the actual world. For instance, Alvin Plantinga proposes that there exist a great many (infinite?) number of maximally consistent sets of abstract states of affairs which represent the metaphysical possibilities. Those who endorse the present view claim that the modal truths are true *in virtue of* the existence of these sorts of entities. For example, that <I could have been a truck driver> is said to be true *because* there exists at least one abstract state of affairs which represents as possible the situation where I am fact driving trucks for a living. But Plantinga's worlds (or any other sort of ersatz entities) cannot be the modal truthmakers.

2.3.2 The Metaphysical Accident Objection

For those who take Lewisian worlds to be the modal truthmakers, we have seen that the modal truths would be mere metaphysical accidents. For instance, if there happened to be no world where I wear a blue shirt, then my wearing a blue shirt is a metaphysical impossibility. This outcome is the result, I think, of the fact that there is a disconnect between the truthmakers and the objects about whom those things truth-make. There just do not seem to be the relevant connections, for instance,

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[133] Jacobs (2010), §3.

between myself and any universes beyond our own. A similar objection applies to ersatz views of modal truthmaking.

To illustrate, consider the following scenario: If ersatz worlds make modal statements true, then it would follow that the annihilation of those worlds would result in fewer possibilities.[134] Now, imagine (*per impossibile*) that the Platonic heaven of ersatz worlds disappear (perhaps because God annihilates them), while only the concrete portion of the actual world remains. If these ersatz entities are what make *any* true proposition of the form <P is possible> true, then *nothing* would be metaphysically possible after the disappearance of Platonic heaven. At one moment, <I could have been a truck driver> would be true—and at the next it would be false, with absolutely no qualitative change in myself whatsoever. This is incredibly counter-intuitive.

This scenario gives rise to an additional worry: Surely, even if the abstract worlds were annihilated, what is *actual* would still be possible, since <P→◊P> is an axiom. So, the ersatzist must admit that at least *some* modal truths are grounded in the *concrete* portion of the actual world. But, then, one of the following must be true:

Two Options for the Ersatzist
(1) Some modal truths are not grounded in ersatz entities at all, but only in actual concrete entities; i.e., ones that are derived via the <P→◊P> axiom.
(2) Some modal truths are doubly grounded in *both* ersatz, representational entities *and* actual, concrete entities; i.e., those same truths as above.

Both options are undesirable, however. The first option is completely untenable. On that option, it would have to be the case that certain merely possible states of affairs could only become actual via the annihilation of the ersatz entity which represents the possibility, and the simultaneous creation of its concrete counterpart. Here is why: Since, on the first option, no modal truths about what actually, concretely exists have ersatz truthmakers, every time that an unactualized possibility gets actualized this trade off of ersatz annihilation and concrete creation would need to occur—

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[134] The following example is from Pruss (2011), 166. See also Roy (1993), 337.

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otherwise, the unactualized possibilities would be *necessarily* unactualized. But, this is incoherent, since to be possible presumably *just means* to be actualizable. The only viable option, then, is the second option. But, that option is not entirely attractive, since it gives the bizarre outcome that <Possibly, a dog exists> has as truthmakers both a concrete, existing dog *and* some entity which is entirely different in kind; namely, an ersatz entity which *represents* a dog as possibly existing. That is bizarre. Pruss concludes, as I do, that it is best to avoid this dilemma altogether and claim that *all* modal truths are grounded in actual, concrete entities. If we can do without two completely dissimilar sorts of modal truthmakers (i.e., concrete and ersatz ones), then we should do so.

2.3.3 The Epistemological Objection

The question arises for the ersatz view that, since the abstract, representational entities are not observable, and do no causally interact with anything observable, how do we come to have modal knowledge? Since we do not have access to those things that ground the modal truths (we cannot observe the ersatz worlds with powerful telescopes, for instance), our modal knowledge—if we ever have it at all—will always be had by accident. Once again, one could reply (as Lewis does) that we have modal knowledge by claiming that possibility depends upon certain *a priori* axioms, but then this seems to render the role of the worlds themselves irrelevant.

2.3.4 The Parsimony Objection

When ersatzers originally proposed, in order to make sense of modal claims, that there were abstract worlds which existed as parts of the actual world, Lewis criticized those views for being qualitatively unparsimonious. For, these ersatz entities are different *in kind* from the (concrete) world. So, since the ersatz view requires the existence of abstract, representational entities (in addition to concrete entities), it may be undesirable on the grounds of parsimony. Related to this concern is the fact that ersatzism requires that the modal truths have entirely different sorts of

truthmaker than the other categories of truth—a very strange outcome. For instance, <Fido exists>, <Fido is sitting>, etc., all have concrete truthmakers consisting of, or involving, Fido the actual, concrete dog. On the other hand, <Fido could have eaten my homework> has an entirely different sort of truthmaker—namely, an abstract entity which is a mere *representation* of what Fido could possibly do.[135]

<center>*2.3.5 The Humphrey Objection*</center>

On the present view, sets of abstract entities (e.g., propositions) are said to *represent* the various ways things could be, and the modal truths are true in virtue of these representations. For instance, <I could have been a truck driver> is true in virtue of the fact that I am represented by one of these ersatz entities as possibly being a truck driver. However, what I am *represented as* doing seems irrelevant to the question of what I *could* do. In light of this, the Humphrey objection against ersatzism may be described as follows:

> For the ersatzist, it will be recalled, a possible world is an abstract object. It represents the actual world as being a certain way, a way which includes having certain individuals, such as Humphrey, for whom things go differently than in the actual world, e.g., Humphrey wins the 1968 election. But the question is why should facts about (such) representations tell us anything about the things represented? Why should the existence of a representation of a winning Humphrey tell us anything about what is genuinely possible for Humphrey? … But the existence of, say, a possible world which represents Humphrey as winning the election is no more constitutive of the possibility of his winning than is the existence of a consistent novel or film which represents him as winning. To insist otherwise is ultimately to confuse a representation with what it represents.[136]

The idea is that a representation of Humphrey winning the election is not a suitable truthmaker for the proposition, <Humphrey could have won the election>. To think that a representation could ground such a truth is akin to thinking that <Sherlock Holmes could have existed> is true *because* there are books about such a character. Jacobs writes,

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[135] See Divers (2002), 203.

[136] Kalhat (2008), 511-512.

Suppose you were told that somewhere deep in the rain forest is a book that includes a story about you and your truck-driving ways. I doubt that you would be inclined to think that that story, that book, is the reason you could have been a truck driver. You would rightfully respond to such a theory with an incredulous stare. But being informed that it's not literally a story, and that it's not actually written in a concrete book, and that it's not located in the rainforest (or anywhere else, for that matter)—that is, being informed that the story is instead an abstract object—should serve only to make you more, not less, incredulous. It is, indeed, puzzling why anyone would think that abstract representations of me, even if there are such things, *make it true* that I could have done such-and-such or couldn't have done thus-and-so. That modality is primitive does not entail that it is best thought of as a primitive property of *representations*.[137]

The intuition that representations plausibly ground the modal truths begins, I think, with the notion that if some scenario is *represented*, then it must be internally logically consistent (since logically inconsistent scenarios are not representable). That being so, the conclusion is that these ersatz representations clearly represent metaphysical possibilities, since metaphysical possibility is just whatever is internally logically consistent. If this *is* what is driving the ersatzist intuition, then I have the following objections: First, as we saw in chapter one, what is metaphysically possible is not just whatever is logically consistent. Second, regardless of whether or not metaphysical possibility is distinct from logical possibility (i.e., consistency), the direction of truthmaking on the ersatzist view is just *backwards*. The representation of the possibility cannot be what makes the possibility statement true. As Kalhat stated above, "To insist otherwise is ultimately to confuse a representation with what it represents." It is wildly implausible to think that possibilities are possible *in virtue of the fact that they are represented as being so*. Rather, it seems better to say that such representations of possibilities are accurate in virtue of the fact that the states of affairs which they represent *are possible*. But, then, abstract representations are not the truthmakers for our modal truths; at best, they are merely accurate depictions of it. It is far more reasonable to think that what makes <I could have been a

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[137] Jacobs (2010), §3. In the original draft of this paper, he adds: "Just as it would not make sense to say that a state of affairs is made to obtain because it is grounded in the true proposition, it does not make sense to say that a state of affairs *possibly* obtains because the possibility is grounded in a true proposition. This just seems to get the order backwards."

See also Roy (1993), 336; Jubien (2007), 100; Contessa (2010), §4.

truck driver> true has something to do with *me* (the concrete object) and not some (abstract) representation of myself.[138] Thus, ersatz possible worlds are not appropriate truthmakers for modal propositions either.

We can easily see that the ersatz approach to modal truthmaking is backwards when we consider the following example regarding essential properties: Consider, for instance, the truth, <Necessarily, if Socrates exists, then he is human>. In light of the metaphysical accident objection, we saw that necessary truths are mere accidents on the ersatz view. That being the case, the proposition above comes out true *if*, in all of the ersatz entities which represent Socrates as existing, he is human. On this view, then, the fact that Socrates is essentially human is the result of how he is represented in the various ersatz worlds. But, this seems entirely backwards. As Kalhat points out, it should be, rather, that "the fact that Socrates is human in every world in which he exists follows from the fact that he is necessarily human; it is not constitutive of it."[139]

2.4 Analysis, Truth Conditions, and Truthmakers Again

The root of the problem with non-ANT accounts, I think, is that there is a confusion between *analysis*, *truth conditions*, and *truthmakers* for modal truths (the difference between these terms is discussed in chapter 2, above). This confusion takes one of two forms: Sometimes it is simply a conflation of the terms. At other times, those philosophers who are only providing truth *conditions* for modal claims are mistakenly interpreted as providing truth*makers*. As an instance of the former, Rosen claims "that fictionalism, like modal realism, aims to be … an account of the *truth conditions*

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[138] One might suggest here that, when we say that the abstract states of affairs (or propositions, etc.) "represent possibilities," we mean to say that those states of affairs are in fact just *primitively possible*. I have no problems with taking modality as a primitive. However, it makes more sense to say that, if modality is primitive, it is located in the actual (concrete) world, rather than in (abstract) states of affairs. I will say more about this in the next chapter.

[139] Kalhat (2008), 510.

for modal statements, and hence of the facts that *make modal statements true*."[140] Here, we see "truth conditions" being treated as a synonym for "truthmakers"—certainly a mistake. Furthermore, throughout the paper, Rosen also repeatedly refers to his project as an *analysis* of modal truths.[141] So, here is an excellent example of the sort of confusion where these three terms are used interchangeably, when in fact they are not interchangeable at all.

Even David Armstrong, a pioneer of truthmaker theory, shows evidence of being confused about these three terms, writing:

> Lewis may, and does, argue that his counterpart theory **analyses**, or gives **truth-conditions** for, statements about mere possibilities for individuals in this world, and so, trivially, is *about* these individuals. Hubert Humphrey did not, but might have, become president of the United States. That statement is true, says Lewis. **What makes it true** is the state of affairs in other worlds where Humphrey counterparts win the presidency of counterparts of the United States.[142]

Above, Armstrong seems to be treating "analysis" as a synonym for "truth condition", and may even be implying that, when one supplies the truth conditions for some truth, this also supplies us with the truth*makers* for that truth. Consider also the following passage from Alvin Plantinga:

> It is clear that a proposition like
>   (1) Socrates is snubnosed.
> is intimately related to a state of affairs like
>   (2) Socrates' being snubnosed.
> … [T]here is an obvious respect in which (1) corresponds to (2); it is impossible, in that broadly logical sense, that (1) be true and (2) fail to obtain. We might extend the use of 'entails' and say that **(1) *entails* (2)**. **But** it is equally impossible that (2) obtain and (1) be false; **(2) also entails (1).**[143]

Recall that truth conditions are bi-conditionals involving symmetrical entailment, while the truthmaking relation is asymmetrical. The passage above speaks of a symmetrical entailment—so we might conclude that he is discussing truth conditions. However, that is bizarre, since the relata in

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[140] Ibid., 354 (emphasis mine).

[141] See especially: Ibid., §4.

[142] Armstrong (1989), 17-18 (bold mine; italics in original).

[143] Plantinga (1974), 45 (italics in original; bold mine).

Plantinga's two examples are *different in kind*—namely, since (1) is a proposition, while (2) is a state of affairs. So, on the other hand, we might conclude that he is not discussing truth *conditions* here, but *truthmakers*. Clearly, there is some confusion in the passage above. It seems to me that Plantinga means to be giving truth *conditions*, rather than truth*makers* (as indicated by the fact that he wishes to "extend the use of 'entails'" in order to accommodate his abstract states of affairs view). Jonathan Jacobs asserts that "Plantinga … is not offering truthmakers for modality"[144] and Trenton Merricks interprets Plantinga as holding the view that at least *some* modal truths are not grounded in being.[145] But, if Plantinga is giving us truth *conditions* for modal truths, then he is mistaken in thinking that the truth conditions can be different in kind than the modal propositions which they are the truth conditions of (this is, perhaps, some reason to prefer Robert Adams's ersatz propositional view to Plantinga's ersatz states of affairs view).

David Lewis is mis-interpreted as providing truthmakers rather than truth conditions as well. He explicitly admits that his possible worlds semantics provides *truth conditions* for modal statements.[146] Elsewhere, he states that the *analysis* of necessity is "truth at all possible worlds"[147] and that the possible worlds schema provides an *analysis* of counterfactuals.[148] It is unclear whether or not he is providing truth*makers*, however.[149]

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[144] Jacobs (2010), §3, n6.

[145] Merricks (2007), 83n.

[146] Lewis (1973), 22; Lewis (1986), 108.

[147] Lewis (1986), 3.

[148] Ibid., 17-21.

[149] Lewis writes, "I think, the demand for truth-makers is wrong in the first place." [Lewis (1992), 218] In his (2002), he explicitly rejects truthmaker theory in favor of the thesis that truth supervenes on being. Armstrong, however, interprets Lewis as providing modal *truthmakers*. [Armstrong (1989), 17] Furthermore, in a posthumously published paper, Lewis explicitly recants and *endorses* truthmakers for at least *some* true propositions (but not modal ones). [Lewis (2003), 30] In that paper, he also (quite mysteriously) refers to a forthcoming article where he defends a version of truthmaker maximalism. [Ibid., 29].

I have just given some evidence of the confusion in the philosophical literature surrounding the use of the terms *analysis*, *truth condition*, and *truthmaker*. A lot of this confusion, I think, stems from the fact that "truthmaker" is a relatively new term in philosophy; its introduction is indicative of a shift in the focus of philosophy. It seems that there has been a trend in recent analytic metaphysics toward ontology, and away from semantics. Confusion arises when the old school interacts with the new school. As Von Wachter points out,

> There are philosophers who think that semantics has an important role in philosophy. They not only think that semantics is an interesting field, but they think that many traditional philosophical problems, e.g. problems about modality, have to do with semantics or are to be solved by 'providing a semantics'. They think that much of philosophy is about providing 'truth conditions' for certain sentences. But there are other philosophers who do not share this enthusiasm for semantics. They are rather puzzled by the fact that some of their colleagues always ask them to specify 'truth conditions' for certain statements, in order to solve certain philosophical problems. They think that most traditional philosophical problems, or those problems which they think are philosophical and important, are not problems of semantics, because, at least as they understand it, semantics is concerned with *meaning,* and most philosophical problems are not about meaning. The theories they put forward, e.g. of causation, or of properties, or of modality, do not say much about semantics and truth conditions. These philosophers might make claims about 'truthmakers', but they do not see why what their colleagues call 'truth conditions' is relevant for the problem.[150]

Of the two categories of philosopher mentioned in this passage, the former—i.e., those who are more concerned with the *truth conditions* for modal truths—are those who are making what Divers calls *conceptual and semantic applications* of possible worlds. That is, the first brand of philosopher makes use of possible worlds for conceptual analysis of modal statements as well as formal modal semantics. The latter—i.e., those who are more concerned with the truth*makers* for modal truths—are those who are making what Divers calls *ontological applications* of possible worlds.[151] It is the former group of philosophers who are the source of the confusion (either because they are drawing mistaken conclusions, or else because we are drawing mistaken interpretations of them). Simply put,

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[150] Von Wachter (2004), 112.

[151] Divers (2002), §§3.1-3.3. These two sorts of application of possible worlds can also be seen in the final paragraph of Rosen, when he suggests a retreat from his robust fictionalism—where the modal fictions *ground* the modal truths—to "timid fictionalism"—where the modal fictions are reduced to the role of mere useful semantic tools "without purporting to shed light on the nature of modal truth." [Rosen (1990), 354]

they are not looking for modal truthmakers, but rather an analysis of modal claims that would correctly capture our intuitions about modal semantics.

Analysis and truth conditions, as we saw above, come in the form of concepts and propositions. Truthmakers, on the other hand, concern ontology. The thought of the new school is that, while having a rigorous analysis of our concepts is all well and good, metaphysics is in the business of determining *what there is*. And it is a mistake, I believe, to attribute to the philosophers of the old school a commitment to modal truthmakers, when all they were ever providing were analyses and truth conditions for modal claims. It is important to note, however, that we cannot hope to discover what the truthmakers for true modal propositions *are* unless we first understand the *meanings* of those propositions.[152] So, at least *some* discussion of meaning must take place before any philosophical project can get off of the ground. However, our proposed set of truth conditions ought to have no ontological commitment built into it (or at least, not any controversial ontological commitment). Ontology is the job of the truthmaker theorist.

3 In Favor of the ANT Account of Modal Truthmaking

3.1 Introduction

We have seen that possible worlds are not satisfactory modal truthmakers. Neither ersatz nor non-actual entities seem up to the task of grounding such truths. For this reason, I endorse an actualist, non-ersatz truthmaking (ANT) view. When I claim that <I could have been a truck driver> is true, I am not picking out a proposition that is made true by some other person, spatio-temporally and causally isolated from me. The existence of some other similar but numerically distinct person in some other universe seems modally irrelevant. But, neither am I picking out a proposition that is

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[152] As MacBride replied to von Wachter, "[W]e cannot determine what the truth makers for a class of sentences must be unless we are equipped to determine what these sentences really *say*. … In short: to establish what the truth-makers of our sentences are we must concern ourselves to a significant degree with semantics. [MacBride (2005), 121]

made true by some sort of representational ersatz entity, such as a proposition or abstract state of affairs. The fact that there exist representations of what is possible (if indeed there even *are* such things) is not what *makes* what is represented possible.

My claim is that a proposition such as <I could have been a truck driver> is made true by *me*, and *my properties*—or the properties I had at some moment in my past—and perhaps also the properties of wheels, and combustion engines, and gravity, and friction, and so on. Presently (in §3.1), we will take a look at how the ANT account fares against the objections to other views which we have just raised. Then, in §3.2, I will argue that it is the *causal* version of the ANT view which is the most attractive.

3.2 The ANT Account vs. Other Accounts

3.2.1 The Subjectivist Objection

Some views propose that the modal truthmakers are subjective, or mind-dependent entities. Such a view would have very unfortunate and counter-intuitive results. But, the ANT view avoids subjectivism about modal truths (as do most of the views which I have examined here). Simply put, the actual, non-ersatz entities which exist do so independently of minds. All ANT accounts of modal truthmaking will therefore be objective ones.

3.2.2 The Actuality Objection

I suggested that the most intuitive reading of the term "actual" is "all that exists". Those views which use the term in some other way (e.g., Lewis's view) seem to stretch that term beyond its reasonable use. So, I would argue that we cannot even *make sense* of any non-actualist view—for actuality is simply the sum of all that exists. But, putting aside the semantic dispute, even if there *are* entities that exist beyond our space-time continuum, causally and spatio-temporally segregated from our own universe, such entities would be modally irrelevant. But, of course the ANT view avoids the

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actuality objection—for it is after all an *actualist* view, proposing that the modal truthmakers all exist within the actual world.

If the modal truths are grounded in the existence of other worlds, then the metaphysical necessities—indeed, *all* of the modal truths—are mere accidents. For instance, if it happens that the only worlds which exist are ones where I (or my counterparts) wear blue shirts, then my wearing of blue shirts is a metaphysical necessity. The root of the problem is that, on the non-ANT accounts, my modal properties—i.e., what is metaphysically possible for me—are *extrinsically grounded*. For instance, on those accounts, every proposed truth about an unactualized possibility involving myself is such that whether or not that proposition is true depends *entirely* upon the existence or non-existence of entities which are distinct—even spatio-temporally *isolated*—from myself. In other words, the claim of those accounts is that *de re* modality is not at all grounded in the *re* (i.e., the individual whom a modal proposition is about), but is rather entirely grounded in entities which are causally isolated from the *re*. This result could not be more counter-intuitive.

The ANT account, on the other hand, grounds the modal truths in the actual, concrete world, such that the necessities are not mere accidents. For instance, <Necessarily, Socrates is human> turns out to be true, not in virtue of the (merely accidental) fact that, in all of the worlds where he or his counterparts exist, he is human. Rather, it turns out true *in virtue of something about the actual Socrates* (e.g., some essence of his, perhaps). Such an account *should* answer the worry about plenitude—i.e., it should rule out the possibility of there being too many or too few possibilities. As it turns out, however, it *may* result in *too few* possibilities. Of the objections raised against the non-ANT views, this is the only one which the ANT theorist cannot answer in a fully satisfactory way. For instance, on the ANT account, it will turn out that there could not have been nothing, and that at least one concrete entity is a necessary being. I will address this worry in chapters 4-7.

3.2.4 The Epistemological Objection

If the modal truthmakers exist in spatio-temporally isolated universes, or in an abstract realm which does not causally interact with the concrete world, then the modal truthmakers are *in principle* empirically unobservable. That being the case, it seems as if the only way to have knowledge of modal truths on those accounts is by *a priori* intuitions or axioms. On the actualist, non-ersatzist view, on the other hand, the modal truthmakers are those concrete objects which exist in the actual world. Though not all of these will be empirically accessible (e.g., the remote past, or God, to whom I give the label "concrete" under some loose sense of that term), at least *some* of them will be—and the ANT view therefore stands on firmer ground epistemically than its competitors. I will say more about the worry of modal skepticism in chapter 4 (§7), after I have presented the ANT view in greater detail.

3.2.5 The Parsimony Objection

Lewisians propose that there are a great number of entities beyond our universe which serve as the modal truthmakers, while the ersatzers propose that there are a multitude of abstract, representational entities—different in kind from those things in the actual (concrete) world—which are the modal truthmakers. The ANT account proposes neither a vast number of entities *nor* entities which are different in kind from concrete objects. Therefore, the ANT view—being both quantitatively *and* qualitatively parsimonious—is the most parsimonious view of all.

3.2.6 The Humphrey Objection

Non-ANT views propose that <Humphrey could have won the election> is made true either by other people living in spatio-temporally isolated universes who are quite similar to Humphrey and *do* win the election, or else by abstract representations of Humphrey possibly winning. But, neither of these views are plausible. The proposal of the ANT account is that propositions about what

Humphrey could have done are just made true *by Humphrey*, and his capabilities—and perhaps by some of the circumstances surrounding the election, and the capabilities of the people involved with the election. Thus, regarding the Humphrey objection, the ANT view avoids the counter-intuitive suggestions made by those other views.

3.3 Actual Non-Ersatz Causal Modal Truthmakers

3.3.1 Introduction

Thus far, I have argued, via a series of objections, that the non-ANT accounts do not supply plausible modal truthmakers. Furthermore, I have pointed out that the ANT account avoids nearly all of these criticisms. For the remainder of this work, I will detail what the consequences are for modality when the modal truthmakers are actual, non-ersatz entities. Presently, I will suggest that the most attractive actual, non-ersatz candidates for modal truthmaking are *causal* entities.

First, a clarification: Note that I am claiming that the truthmakers are actual, non-ersatz entities only for those modal truths which are introduced at the *metaphysical* level of modality. Since metaphysical possibility that is narrower in scope than logical possibility—i.e., since there are some things which are logically possible, though metaphysically impossible—some of the modal truths will be ones that "trickle down", so to speak, from the level of logical possibility, while others will be *introduced* at that level (i.e., some things will be metaphysically impossible, though logically possible). For instance, <Necessarily, there are no square circles> is metaphysically necessary, but only because it is also *logically* necessary (and all logical necessities trickle down to metaphysical necessities). On the other hand, if <Necessarily, God exists> turns out to be true, I take this to be one of those "interesting" metaphysical necessities which is introduced at the level of metaphysical modality (since that proposition is logically *contingent*). It is the latter, *purely* metaphysical modality

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that I will be investigating here, since the *logical* necessities may have an entirely different set of modal truthmakers than the (purely) metaphysical necessities.[153]

Now, as we have seen, the non-ersatz version of actualism regarding the truthmakers for modal truths rejects the standard system of ersatz possible worlds, and looks instead to the non-representational portion of the actual world—claiming that possible worlds have nothing to do with modal truthmaking. This movement has been called the "new actualism" by Barbara Vetter, and "hardcore actualism" by Gabrielle Contessa.[154] Vetter summarizes the view nicely:

> In recent years, a different stripe of actualists has emerged. These *new actualists*, as I shall call them, do not feel the onus of providing an actualist account of possible worlds. Possible worlds, they say, may be a useful formal device in modal logic ... , but they have little to do with the metaphysics of modality. Instead of accounting for possible worlds, then, these theorists seek to provide an account of modality directly; their shared aim is to identify, within the actual world, the grounds, source or truthmaker of modal truths.[155]

The new actualist approach has slowly gained appeal over the course of the last three decades, and especially over the last few years. The movement began in the works of philosophers such as Fabrizio Mondadori and Adam Morton, Michael Jubien, and David Armstrong.[156] As early as 1976, we find the former suggesting that <Ljubojevic could have won the chess match> is true in virtue of "Ljubojevic's great chess talent, the quality of his play up to that point, the quality of his opponent's play up to that point, and the history of the tournament up to that point."[157] This view takes form more clearly as a *causal* theory in the writings of later philosophers such as Alexander Pruss,

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[153] For instance, <Necessarily, all bachelors are unmarried> may have among its truthmakers something like the concept "bachelor" and the concept "unmarried" and some (primitively?) necessary relation between the two.

[154] Vetter (2011); Contessa (2010).

[155] Vetter (2011), 742.

[156] Mondadori and Morton (1979); Jubien (2007); Armstrong (1989). Mondadori and Morton, as well as Armstrong, all claim to be fictionalists about *worlds*; but they are actualist-non-ersatzists about *modal truthmakers*.

[157] Mondadori and Morton (1979), 243 (originally published in 1976).

Jonathan Jacobs, Andrea Borghini and Neil Williams, and Gabriele Contessa[158]—though Mondadori and Morton had previously proposed that, "The truth or falsity of a 'might' sentence depends on the existence or nonexistence of certain states and causal processes."[159] It is this later, causal version of ANT theory that I will endorse here.

3.3.2 Three Candidates for Actual Non-Ersatz Truthmakers

Before promoting the causal version of the ANT theory, I wish to briefly explore all of the various sorts of actual, non-ersatz modal truthmakers on offer. It seems that, if the ground of possibility is to be found in actual, non-ersatz entities, it will be found either in objects or their properties. Two sorts of properties have been proposed: Those which are primitively modal (i.e., dispositional properties) and those which are not. Given that possibility is grounded in actual, non-ersatz entities, then, we have three potential candidate theories for ANT modal truthmakers:

Three Candidates for Actual Non-Ersatz Modal Truthmakers[160]
(1) *Object Essentialism* – Objects have essences—i.e., they have certain properties necessarily— and these ground the metaphysical necessities.
(2) *Property Essentialism* – Properties have essences or natures, and these ground the metaphysical necessities (e.g., due to the incompatibilities between properties).
(3) *Dispositionalism* – Some properties are primitively modal (i.e., dispositional), and these cause the objects which possess them to react in certain ways when they interact with one another—and therefore ground the metaphysical necessities.

1. *Object Essentialism* – On object essentialism, the order of explanation is not that individuals have certain properties essentially *because* they have those properties in every world where they exist—but rather the other way around. These essences restrict what is metaphysically possible. For instance, if Socrates has the property of being human essentially, then the scenario where Socrates becomes a horse is not a metaphysically possible one (though it *is* a logically possible one—unless

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[158] Borghini and Williams (2008); Contessa (2010); Jacobs (2010); Pruss (2011).

[159] Mondadori and Morton (1979), 245.

[160] These roughly correspond to those categories laid out in Vetter (2011). For object essentialism, see Fine (1994); for Platonic property essentialism, see Jubien (2007); for Aristotelian property essentialism, see Shoemaker (1998); for dispositionalism, see Pruss (2011).

being human is a part of the *definition* of Socrates). The down side of such a view is that it only restricts the ways that we can *describe* the metaphysical possibilities. For instance, if Socrates is essentially human, this does not rule out the metaphysical possibility where some individual, *qualitatively identical to Socrates*, becomes a horse. Object essentialism only rules out the possibility that this individual is *Socrates*.

Certain instances of such qualitative duplication without identification may be ruled out, however. For instance, in chapter 5, I will propose that *origin* is a necessary and sufficient condition for identity. In that case, it will turn out that any individual which has an origin which is qualitatively identical to my own *is me*. Of course, as we will see, this thesis does not rule out the possibility that some individual with a different origin could have led a life that is qualitatively identical to my own—but that individual's life would not be *completely qualitatively identical* to my own, in this case, since our origins differ.

I endorse object essentialism. I believe that many objects belong to certain *kinds* essentially, for instance; e.g., Socrates has the property of being human essentially, and an oak tree has the property of being an oak tree essentially, and perhaps a Hydrogen atom has the property of being Hydrogen essentially, etc. I also believe that many objects have their *origins* essentially. However, I do not believe that these essences of objects are the *only* things which ground the truth of modal propositions. For, object essentialism only informs us of, or places restrictions upon, the *identities* of objects. Thus, it seems to only place a *cap* or *limit* on what is metaphysically possible. But, it does not seem to give us a satisfactory *grounding* for the metaphysical possibilities themselves. For instance, what on this account would make <I could have been a truck driver> true? Object essentialism may tell us that, if I were to drive a truck, we should expect the driver to be human, and perhaps have a certain origin—but what *makes* the state of affairs of me driving a truck *possible*? Object essentialism does not seem to have an answer to this question—short of endorsing some principle of

recombination which is only restricted by the logical truths plus the facts about objects and their essences. But, at best, the principle of recombination is a *guide* to metaphysical modality. It cannot be the (actual, non-ersatz) *truthmaker* for true modal propositions.

2. *Property essentialism* – Property essentialism attributes essences not to objects, but to properties. On this view, properties have certain natures, and these natures restrict the metaphysical possibilities via their *entailment of* and *incompatibility with* other properties. For instance, on this account, it turns out that <All horses are animals> and <No horse can become a human> are metaphysically necessary truths. This is due to the fact that the property of *being a horse* entails *being an animal*, but is incompatible with *being human*. According to one's ontological tastes, these properties can either exist uninstantiated (i.e., as Platonic properties), or not (i.e., as Aristotelian).[161]

I am not opposed to some form of property essentialism. It does seem true that, if something has the property of *being a horse*, for instance, then it is metaphysically impossible for that object to also have the property of *being human*. But, like object essentialism, property essentialism may put a *cap* or *limit* upon metaphysical necessity (such that, e.g., the scenario where a horse is also a human is metaphysically impossible), but it does not seem to give us an adequate *ground* of metaphysical possibility. For, again, what makes <I could have been a truck driver> true on this account? Property essentialism does not seem to have an answer to this question—again, short of proposing some principle of recombination which is restricted only by the logical truths plus facts about properties and their essences.

3. Dispositionalism – The two accounts just described both place an upper bound upon what is possible by telling us what the essences of objects and properties are, but they do offer an explanation of *how* the possibilities are grounded. In order to generate the metaphysical possibilities,

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[161] Note that Platonic property essentialism is a view which nicely illustrates why I do not wish to use the term "abstract" as a perfect synonym for "ersatz". For, while Platonic properties *are* abstract entities, they are not *ersatz* entities, since they are not representational.

those two views require something like a principle of recombination; i.e., something like the principle that Armstrong explicitly invokes when laying out his version of Aristotelian-property-based modality.[162] In short, on the object/property essentialism accounts, whatever is not ruled out by the metaphysical necessities introduced by the natures of objects or properties (as well as, presumably, the logical and semantic truths) *is automatically counted as a metaphysical possibility*. For instance, say that P is the proposition, <I snap my finger and bring a unicorn into existence>. Since <~P> is not among the set of necessary truths generated by the object/property essences, it turns out that <~□~P> is true. But, ~□~P → ◊P, so <I snap my finger and bring a unicorn into existence> turns out to be a metaphysical possibility.

But, "not being ruled out" seems importantly different than "being true". For instance, if the only sign explicitly ruling out an activity posted on my lawn reads "No soliciting", this does not entail that I *do* permit raping, pillaging, and plundering. Furthermore, consider the proposition, P, about snapping fingers and bringing unicorns into existence. While it is true that the fact of whether or not the logical and metaphysical truths *permit* it *is* relevant to its possibility, ordinary intuition tells us that whether or not I could really *bring it about* is *also* relevant. In other words, whether or not <I snap my finger and bring a unicorn into existence> is possible seems to depend, not merely upon the fact that facts about logic and essences *rule it out*, but it *also* depends upon whether or not *I have the ability to do it*. Therefore, I propose, even if the above accounts are true, we still require more; for the question is not one of whether or not there is some property relation which is incompatible with my snapping my fingers and a unicorn then appearing. The question is, could *I, the concrete individual,* have *caused it*, or *brought it about*? In other words, *have I ever possessed the ability or capacity to do this?*

Now, first note that the two views examined above *are* both in some sense *causal*. For, those views give rise to governing laws of either the form *All F's are G's* (e.g., *All horses are mammals*) or *No*

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[162] Armstrong (1989), 37. Note that Armstrong does not think that properties have their natures *essentially*, however; i.e., he believes the laws to be contingent rather than necessary.

F's are G's (e.g., *No horses are humans*). But, these laws are only those of entailment or inconsistency. What we want to know is, what is it about *me* that makes it true that <I could have been a truck driver> or <I could snap my fingers and bring a unicorn into existence>? What grounds the metaphysical possibility of these scenarios? It is this ground which dispositionalism proposes to offer. Dispositionalism states that certain properties (i.e., dispositional ones) are primitively *modal* in nature. That is, dispositional properties make it true that the objects which have them *would* react or manifest in certain ways if placed in certain conditions (that is, if those dispositions are deterministic; otherwise, if those dispositions are probabilistic, they are said to *probabilify* certain manifestations). If dispositionalism is true, then we have a suitable truthmaker for the proposition, <I could have been a truck driver>. Namely, it is true in virtue of the fact that I possess (or possessed, at some time in my past) the relevant *dispositions* to bring it about that I became a truck driver.[163] Furthermore, this is more than an account of why such a state of affairs is *permitted*. It is furthermore an account which grounds the answer to the question of *how I could bring that state of affairs about*.

3.3.3 New Actualist Dispositionalism (NAD)

Here, I will endorse the dispositionalist version of the ANT theory. I will call this view "new actualist dispositionalism" (NAD), which proposes the following:

New Actualist Dispositionalism   Given (i) All of the logical necessities (i.e., those necessities derived via the logical, semantic, and conceptual truths), (ii) All of those metaphysical necessities which are derived via the essences of properties and individuals, and (iii) All of the facts about the past and the present: <◊P>, for any non-actual state of affairs P, is true in virtue of the fact that some actual individual X (past, present, or future) possesses the dispositional property D_1 such that that X, in virtue of D_1, could have brought it about that P (or else, could have brought it about that individual Y possessed dispositional

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[163] Note that the dispositionalist may hold a hybrid of object essentialism and dispositionalism. This would occur if the properties which objects have essentially are dispositional ones. For instance, one of the essential properties of salt may be *dissolvability*. In that case, because the view is a version of object essentialism, it turns out that the scenario where salt lacks the property of dissolvability is a metaphysically impossible one. But, furthermore, because the view is a version of dispositionalism, it turns out that the scenario where salt is placed in water but does not dissolve is a metaphysically impossible one. For a proponent of this view, called dispositional essentialism, see Bird (2007).

property D_2, such that Y, in virtue of D_2, could have brought it about that P; or else, could have brought it about that individual Z possessed dispositional property D_3 … etc.).

In this chapter, I have provided both a negative and a positive motivation for this conclusion. The negative motivation for this view is as follows: As I have just shown, all of the non-ANT views are inadequate providers of modal truthmakers. Furthermore, of the three possible ANT views, dispositionalism is the only ANT view which provides a suitable ground for possibility. The other ANT views merely stipulate that everything not ruled out by the necessities introduced by object or property-natures is possible (or else assume some sort of principle of recombination which is restricted only by these necessities). But, a principle of recombination is not an actual, non-ersatz truthmaker; and it does not give us an explanation of how possibilities are *grounded* or *generated*.

The positive motivation for this conclusion is as follows: Consider some ordinary modal proposition such as <I could have worn the red shirt today instead of the blue one>. Here, it is proposed that "my wearing the red shirt today" is a possible state of affairs. Now, when considering what in the actual world *makes* this state of affairs possible, it is only natural to conclude that it is *my ability to have brought it about* (or, the fact that I possessed the relevant *dispositions* which could have manifested as my having brought it about). In other words, the natural conclusion is that (on an ANT view), the unactualized possibilities are those which could be *causally brought about*. For this reason, I agree with those ANT theorists who propose that the dispositional properties of objects are the modal truthmakers. As we will see in the next chapter, however, such a view entails the surprising conclusion that all of the metaphysical possibilities must share some initial causal portion in common.

CHAPTER FOUR

DISPOSITIONAL TRUTHMAKERS AND THE NECESSARY ORIGIN

Introduction

Several philosophers have recently suggested that what grounds the metaphysical possibilities are the dispositional properties of objects in the actual world. On this dispositionalist version of what has been dubbed "The New Actualism," possibility is anchored in the objects of our actual world. For example, on this view, it is metaphysically possible for unicorns to exist only if some *actual* object has (or had) the disposition to bring it about that there are unicorns. Here, I will argue that such a view is committed to the following conclusion: All of the metaphysical possibilities must share some initial causal portion in common with the actual world, such that either there exists at least one causally potent necessary being, or else there is necessarily an infinite, beginningless series of contingent causes.

I will argue for this conclusion as follows: In section 1, I introduce New Actualist Dispositionalism (NAD). In §2, I explain why this view endorses what I call The General Overlap Requirement (GOR)—i.e., the requirement that all of the possibilities share some causally potent portion in common with the actual world. In §3, I show that NAD, in conjunction with GOR, entails that metaphysical possibility takes a branching structure, where the possibilities are "branches" that diverge from the actual world. In §4, I explain why these branches must diverge in one direction, but not the other (namely, forward, but not backward). In §5, I draw out the conclusion entailed by NAD, stated above.

1 New Actualist Dispositionalism (NAD)

Things could have been different. Some believe that this is true in virtue of the fact that there are possible worlds where things *are* different. These worlds are said to be either concretely existing universes outside of our own, or else some ersatz, abstract entities existing *within* our actual world. There is a present trend away from this type of explanation, however. A view recently dubbed "The New Actualism"[164] rejects the idea that possible worlds ground the modal truths—instead proposing that the modal truths are grounded in the modal features of non-ersatz (roughly, "natural") objects in the actual world. As David Armstrong suggests:

> Why not ... start from a Naturalist basis, and enrich the space-time world with modal features, making some this-worldly states of affairs contingent, others necessary? Such modal features are surely more attractive candidates for the truth-makers of modal truths than the propositions of the non-Naturalist actualists.[165]

Armstrong has a *combinatorial* explanation of modality in mind—where the metaphysical possibilities are just the various re-combinations of actual, natural entities—but others have started from these same Actualist, Naturalist principles and adopted a *property-based* explanation of modality. These philosophers claim that the modal truths are true in virtue of the *dispositional properties* of actual, non-ersatz objects. This is the view, for instance, of Alexander Pruss, Andrea Borghini and Neil Williams, Gabriele Contessa, and Jonathan Jacobs.[166] Dispositions are typically described as the irreducibly modal properties of objects, which are capable of manifesting in various ways when the objects that have them are placed in certain manifestation conditions. So, when individual X has a disposition to M, it is the case that, if X were to be in some circumstance C, then X would M.[167] For instance, salt possesses the dispositional property of water-solubility such that, if placed in water, it

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[164] Vetter 2011, p. 743.

[165] Armstrong 1989, p. 34.

[166] Pruss 2011 ; Borghini and Williams 2008 ; Contessa 2010 ; Jacobs 2010.

[167] See, e.g., Ellis and Lierse 1994, p. 33. This is only true of *deterministic* dispositions, however. For probabilistic dispositions, X would only *probabilify* M.

will dissolve. The conclusion is that, "In order for some state of affairs to be possible, there must be some actual disposition for which the possible state of affairs in question is its manifestation."[168]

The view just stated is a version of Actualism about metaphysical possibility, since it concludes that possibilities are grounded in the properties of *actual* objects; but it is a newer and more radical version of Actualism than past offerings, since the actual entities in question are natural objects rather than, say, the abstract objects (e.g., sets of abstract states of affairs existing in the actual world) proposed by philosophers such as Alvin Plantinga;[169] hence the name, "The *New* Actualism," or, elsewhere, "*hardcore* actualism."[170] Let us call the *dispositionalist* version of the New Actualism—i.e., the view that the properties of actual objects which ground possibility are *dispositional* properties—New Actualist Dispositionalism (NAD).

On NAD, causal dispositions are the "truth-makers" for true modal propositions. In that case, <X is possible> is true in virtue of the fact that the actual world contains the dispositions to bring it about that X. As Jacobs puts it, "State of affairs S is possible iff there is some actual disposition d, the manifestation of which is (or includes) S."[171] For example, on this view, it is metaphysically possible for unicorns to exist only if some *actual* object has (or had) the disposition to bring it about that there are unicorns. Since "dispositionality is the source of causal potency" on this view, the ground of metaphysical possibility according to NAD is ultimately *causal* in nature.[172] For, the metaphysical possibilities turn out to just be those states of affairs that can be *causally brought about*. Pruss writes,

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168 Borghini and Williams 2008, p. 22.

169 Plantinga 1974.

170 Contessa 2010.

171 This is the account given in: Borghini and Williams 2008, p. 26.

172 Ibid., 24.

[I]t is possible that *s* if and only if either *s*, or there is something that has the causal capability to make it be that *s*, or there is something that has the causal capability to make it be that there is something that has the causal capability to make it be that *s*, or ... And we can summarize this by saying that a non-actual state of affairs is made possible by something capable of initiating a chain of causes leading up to that state of affairs.[173]

2 The General Overlap Requirement (GOR)

New Actualist Dispositionalism (NAD) is committed to the conclusion that all of the metaphysical possibilities[174] must share some portion in common with the actual world—i.e., each possibility must have some *overlap* with our world—and furthermore, this portion must be a *causally potent* one. Before I explain this claim, I would like to first consider an example from Penelope Mackie. She notes that, in considerations of de re modality (i.e., what is possible *for a particular individual*) we typically endorse the idea that all of the metaphysical possibilities *for some particular individual* must share some portion of that individual's actual timeline. She calls this The Overlap Requirement. Mackie elaborates:

> The idea behind the overlap requirement is, roughly, this: when you are considering how Julius Caesar might have been different, you have to take Julius Caesar as he actually was at some time in his existence, and consider what possibilities there are for him that are consistent with his being as he actually was at that time in his existence. (I intend the overlap requirement to represent a principle about *de re* modality ...)[175]

The ordinary way of thinking about what is possible for Caesar is to take some actual point in Caesar's life as fixed and then consider all of the states of affairs which could have been causally brought about from that point. But, then, all of those possibilities will contain that initial fixed point

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[173] Pruss 2011, p. 213 (ellipsis in original).

[174] NAD theorists in general reject possible worlds, but only because they cannot be the things in virtue of which the modal truths are true. Nevertheless, there undoubtedly remain metaphysical *possibilities*—i.e., ways things could be. The claim is only that such things cannot be the *truthmakers* for modal truths. In this paper, I will sometimes use the term "possible world" as a synonym for these possibilities, or "ways things could be." This should not, however, be understood as attributing any particular ontological commitment regarding worlds to NAD.

[175] P. Mackie 2006, p. 108.

in Caesar's life (and indeed, the complete timeline of his life *up until* that point). What I am proposing here is that the NAD theorist is committed to something like that.

Now, the Overlap Requirement is controversial in the case of de re modality for particular individuals (for instance, why must all of the "ways things could have been" for Caesar be rooted in some fixed point in his *actual* life? Perhaps it is possible for Caesar's life to have had nothing *at all* in common with his actual life). However, the NAD theorist is uncontroversially committed to something similar to Mackie's Overlap Requirement—but for metaphysical possibilities in general, rather than for de re possibilities only. This conclusion that all of the metaphysical possibilities must have some overlap with the actual world is just *what it is* to be a New Actualist Dispositionalist. Recall that New Actualist Dispositionalism is simply the position that, for any unactualized metaphysical possibility, S, S is possible (ultimately) in virtue of some *actual* dispositional property of some *actual* object. That is, S is possible if, and only if, S is (ultimately) the effect of some actual, causal entity, X. But, then, the possibility which includes S must also include X (i.e., some actual, causally potent object). In short, just as all of the possibilities for Caesar are anchored in some fixed point of his actual life in the example above, for the NAD theorist, all of the metaphysical possibilities are anchored in some fixed point of the actual world (namely, some fixed point containing an actual dispositional property). Let us call this claim The General Overlap Requirement (GOR).

> **The General Overlap Requirement (GOR)** All metaphysical possibilities must share some causally potent portion in common with the actual world.

Consider an example: It is true that the salt in my pantry could dissolve in water. But, what *makes* this true? According to NAD, the currently unactualized state of affairs of the salt's dissolving in water is metaphysically possible in virtue of the fact that the salt in my pantry currently possesses the disposition of water-solubility. Consider now the possibility that the manifestation of that disposition *does occur*—i.e., imagine a situation where the salt from my pantry *is dissolving in some water*

at this very moment. That possibility is anchored in some fixed point in the actual world which contains the relevant disposition (in this case, the actual salt currently in my pantry). But, rather than staying dry in my pantry as it does in the actual world, in the possibility we are considering, the salt is instead placed in some water where it begins to dissolve. In short, the unactualized but possible scenario where the salt in my pantry is dissolved is such that, *if it were actualized*, it would include the actual salt from my pantry. This is due to the fact that any scenario which includes the manifestation of a dispositional property (i.e., the effect; in this case, the dissolved salt) must include the unmanifested dispositional property as well (i.e., the cause; in this case, the undissolved salt). Since, for NAD, *all* of the metaphysical possibilities are like this, the conclusion is that all of the metaphysical possibilities must share some causally potent portion in common with the actual world, however small.

3 The Branching Conception of Modality

My conclusion in this section is that, on NAD, since the modal truthmakers are causal dispositions, metaphysical possibility must have a branching structure. Furthermore, given GOR, these branches must be anchored in some portion of the actual world. To illustrate, consider: This morning, I made some choices. Namely, I chose (1) to put on a blue shirt, and (2) to have a cup of coffee. Now, presumably it is metaphysically possible that I *could have* worn some other color of shirt (or none at all), and I *could have* had something besides coffee (or nothing at all). On NAD, these alternatives are possible just as long as I possessed the dispositions to *causally bring them about*. It is as if each decision that I make is a causal "node" of sorts. Alternatives are available to me at each of these nodes—alternatives which I am causally capable of actualizing. But, then, on this account, metaphysical possibility takes a branching structure, as in the following diagram:

Figure 1: The Branching Structure of Metaphysical Possibility

_____ = Actual timeline (blue shirt and coffee)

.... = Possible choices of a non-blue shirt

— — — — — — = Possible choices of non-coffee

— · — · — · — · = Later possibilities that arise due to previous events
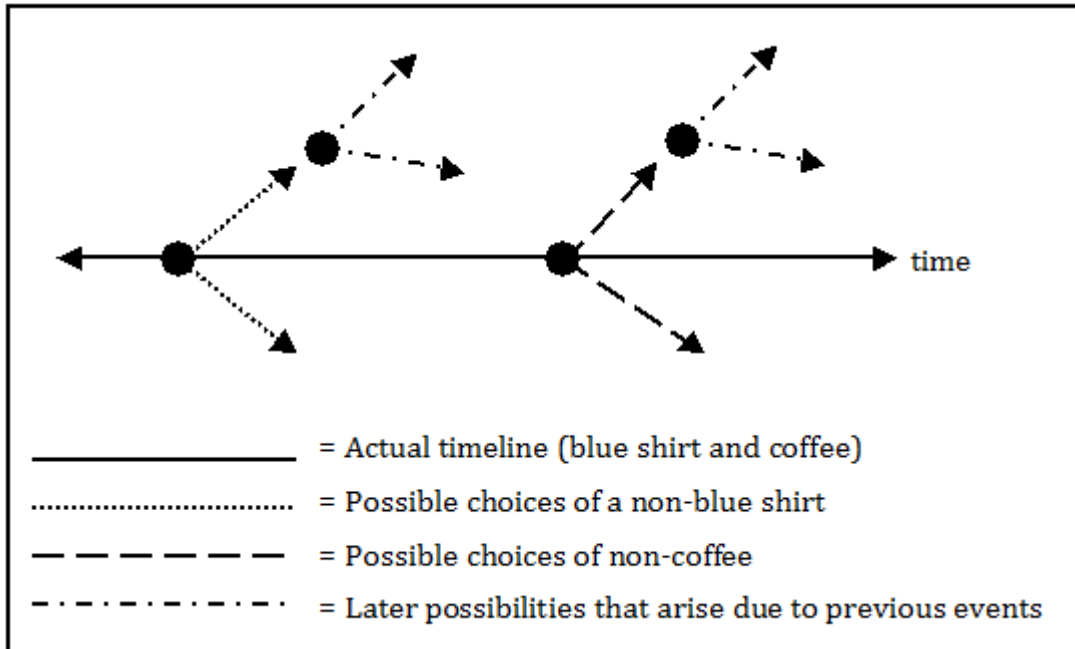
Above, the causal nodes have been made quite large for emphasis. These causal nodes (where the branches split) indicate the locations of the causal dispositions which ground the unactualized possibilities. At each of these nodes, there is some entity with a causal disposition—in this case, *me*—which possibly manifests as one of the branches. As Borghini and Williams put it, "It is the dispositional property that we describe as 'anchoring' all the branching possibilities. … The actual dispositional properties are the nodes from which possibilities branch."[176] For instance, the diagram above would be an accurate representation of the structure of the possibilities just as long as I actually possessed a probabilistic disposition at the first node which probabilified certain manifestations in that exact circumstance (e.g., "putting on a blue shirt," "putting on a red shirt," or "going topless"); and, at the second node, just as long as I possessed a probabilistic disposition which probabilified certain other manifestations in that exact circumstance (e.g., "drinking coffee," "drinking tea," or "drinking bleach"). Furthermore, once a possible branch is actualized, then further

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[176] Borghini and Williams (2008), 30n, 39.

possible branches become available for actualization[177]—and these further alternatives will differ from branch to branch. For instance, if I had chosen bleach instead of coffee, this would have put me in a different manifestation condition than the one that actually occurred, such that different actualizable branches would have become available to me (e.g., alternatives such as choking, vomiting, calling 911, or death would have become available).

4 Forward Branching, But Not Backward Branching

Note that the figure 1 depicts *forward* branching, but not backward branching. I will now argue that, on NAD, it cannot be any other way; that is, on NAD, the branching possibilities must only go forward, but not backward. To see this, first note that there are only four *epistemic* possibilities regarding the direction of branching:

> **The Four Epistemic Possibilities For Branching**
> 1. There is forward, but not backward branching.
> 2. There is backward, but not forward branching.
> 3. There is both forward and backward branching.
> 4. There is neither forward nor backward branching.

Second, note the following common assumption:

> **The Assumption of Open Futures (AOF)** There is more than one way that the future could be.

The Assumption of Open Futures (AOF) is quite plausible. It is merely the assumption that the future is "open" in the sense that there are various alternative futures which are possible. In short, AOF is the assumption that *what will happen tomorrow is not set in stone*. This is the intuition of anyone who endorses, e.g., libertarian free will or indeterministic physical laws. Presumably, any NAD

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[177] Note that "becomes available" does not mean "becomes possible." On NAD, *all* of the branches are *always* metaphysically possible. However, which possible branches (i.e., manifestations of dispositions) gets actualized will depend upon which manifestation *conditions* get actualized. When I chose my morning beverage, for instance, branches including choking and death would have become available if I had chosen bleach, but not if I had chosen tea (assuming it was normal, harmless tea).

theorist would accept AOF. Borghini and Williams explicitly endorse it, stating that different futures can unfold (dispositions allowing).[178]

So, of the four epistemic possibilities regarding branching above, possibilities (2) and (4) are immediately ruled out by AOF, since both of those options deny the possibility of forward branching.[179] So, we are left with possibilities (1) and (3). That is, either there is forward, but not backward branching, or there is both forward and backward branching. Typically, however, while we accept the possibility of forward branching (due to AOF), the possibility of backward branching is rejected. That is, most people reject option (3) in favor of option (1). John Mackie notes[180] that this preference is a result of two intuitions: (a) Causal indeterminism; i.e., the openness of the future, and (b) The fixity of the past. We tend to regard the future as open and unfixed, while regarding the past as *unchangeable* due to the fact that it has *already occurred*. In short, the past seems set in stone, but the future does not—and this leads us to conclude that there is forward, but not backward branching.

But, perhaps this intuition about the fixity of the past is mistaken. After all, it is at least *epistemically* possible that there is some metaphysical possibility which starts out differently, but then *converges* with the actual world to overlap with some non-initial portion of it (say, from 1000 AD to the present, and on into the future). As Mackie notes:

> It is not particularly counterintuitive to ask questions like: given the way that Julius Caesar was in 49 BC, what are the various ways in which he might have started from a different origin and ended up at that point in his career?[181]

Furthermore, it is not immediately obvious that the NAD theorist must reject the possibility of backward branching. After all, such a possibility would not violate The General Overlap Requirement. To illustrate, consider the following depiction of backward branching:

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[178] Borghini and Williams 2008, p. 40.

[179] This same point is noted in P. Mackie 2006, p. 110.

[180] J.L. Mackie, J.L. 1974, p. 558.

[181] P. Mackie 2006, p. 111.

Figure 2: Backward Branching
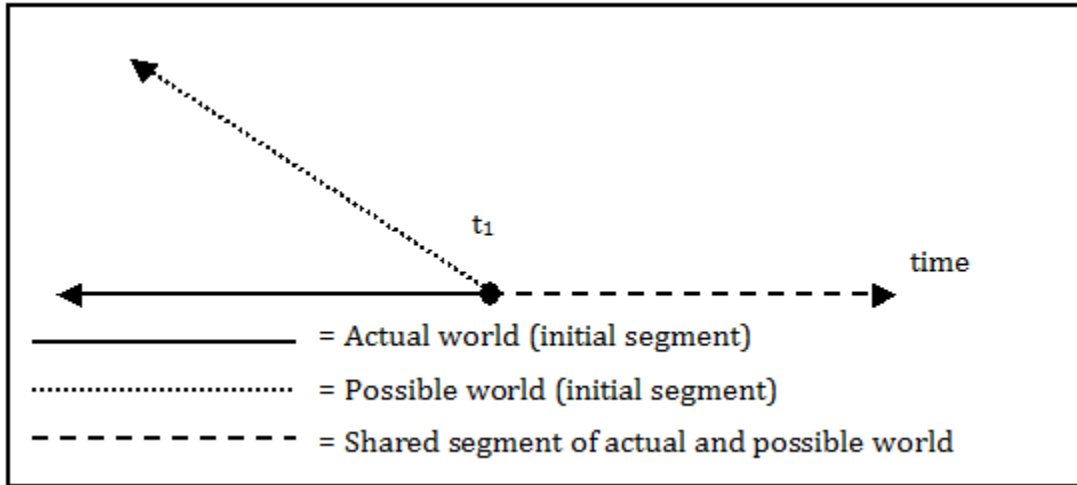
The diagram above depicts a "possible" world that converges with the actual world at time t_1; that is, it has an initial segment which differs from that of the actual world, but a later segment which it shares with the actual world. As seen here, cases of backward branching clearly do not violate The General Overlap Requirement, since any converging world will by definition have some overlap with our own (in the diagram above, for instance, the converging world overlaps with the actual world at every moment after t_1).

Though convergence cases are conceivable, they must ultimately be rejected by the NAD theorist as impossible. For, as it turns out, their existence is inconsistent with the conjunction of The Assumption of Open Futures and The General Overlap Requirement. To explain why, I will reference the following diagram:

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Figure 3: Forward and Backward Branching

‎‏ = Actual world (entire)
  i.e., actual world = Line traced by S-T-U

········· = World w_1 (portion not shared with actual world)
  i.e., w_1 = Line traced by P-Q-T-U

- - - - - = World w_2 (portion not shared with any world)
  i.e., w_2 = Line traced by P-Q-R
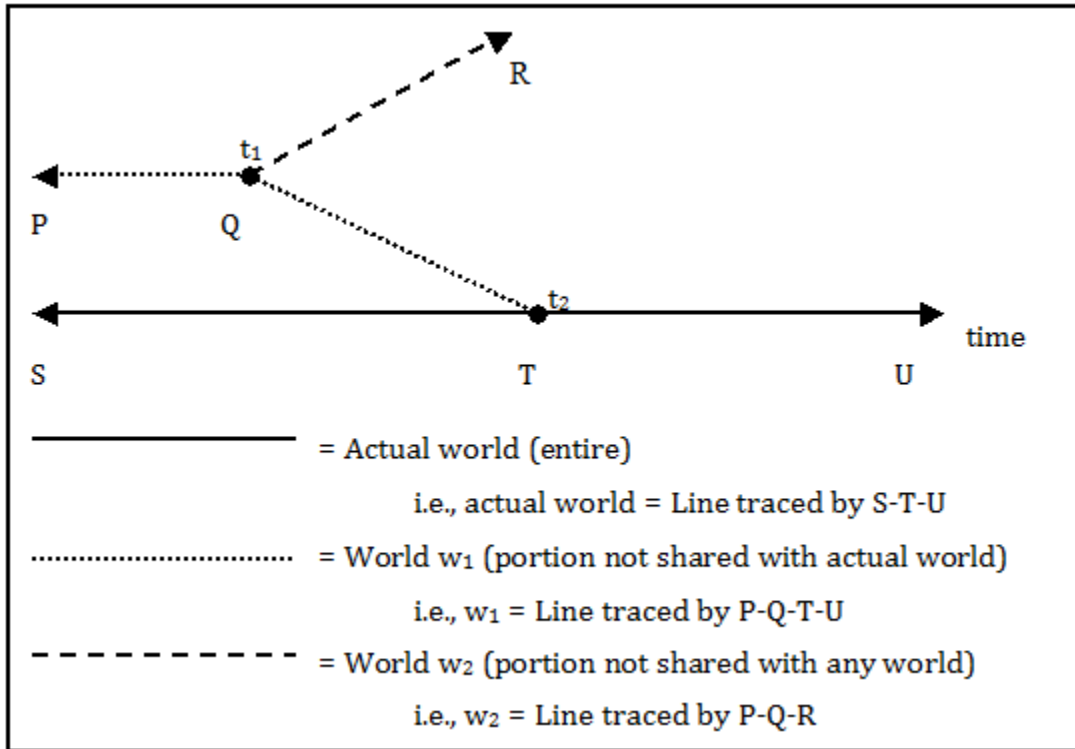
Explanation: Given the Assumption of Open Futures, we automatically accept the possibility of *forward* branching. The question at hand is whether or not there might be backward branching *in addition to* forward branching. Now, if both backward *and* forward branching are permitted, then at the actual world there is a possible world—call it w_1—which *converges* with the actual world at t_2 (since backward branching is possible). But, then, at w_1 there is a possible world—call it w_2—which *diverges* from w_1 at t_1 (since forward branching is possible). These three worlds are depicted in the diagram above (where the actual world is depicted by the line S-T-U, w_1 is depicted by the line P-Q-T-U, and w_2 is depicted by the line P-Q-R).

If both backward *and* forward branching were possible (as depicted above), then (according to NAD) it would be the case that—though w_1 is possible at the actual world, and w_2 is possible at w_1—w_2 is not possible at the actual world. World w_2 cannot be metaphysically possible at the actual world, since no portion of w_2 overlaps with any portion of the actual world; and that is a violation of The General Overlap Requirement (one of the central assumptions of NAD).

Note: I am *not* making the claim that the individual *events* which occur along the line P-Q-R must all be impossible at the actual world if GOR is true. Rather, my claim is only that the *world* composed of all and only the line P-Q-R would be impossible at the actual world. Presumably, if branching were possible in both directions, then the world traced by the line S-T-Q-P would be metaphysically possible, as would the world traced by the line S-T-Q-R. So, *if* both backward and forward branching are possible, then everything along the line P-Q-R *would* be possible at the actual world. The problem is that the *world* composed of line P-Q-R (i.e., w_2) would be metaphysically impossible at the actual world, because such a world does not meet The General Overlap Requirement. In short, according to NAD, w_2 is not "a way things could be."

Returning to figure 3, if both backward and forward branching are metaphysically possible, and if GOR is true, then w_1 is possible at the actual world, and w_2 is possible at w_1, but w_2 is not possible at the actual world. This result is a violation of the transitivity of accessibility, a generally accepted principle of modal logic derived from the (4) axiom:

The (4) Axiom $\square\ P \rightarrow \square\ \square\ P$

In sum, we are presented with four jointly incompatible theses:

Four Incompatible Theses
1. The General Overlap Requirement (GOR)
2. The Assumption of Open Futures (AOF)
3. The transitivity of modal accessibility; i.e., The (4) Axiom
4. The possibility of converging worlds; i.e., backward branching

At least one of these four theses must be false. The NAD theorist is most likely to give up the fourth thesis; i.e., they will reject the possibility of backward branching. First, as we have seen, the central claim of New Actualist Dispositionalism *just is* GOR. So, the NAD theorist *must* accept the first of the four incompatible theses. Furthermore, our intuition that The Assumption of Open Futures is true is incredibly strong. This leaves only transitivity and backward branching. But, most NAD theorists explicitly endorse the (4) axiom (for instance, Pruss, Jacobs, and Borghini and

Williams all do so).[182] So, the NAD theorist should give up the possibility of backward branching.[183]

Borghini and Williams indicate their endorsement of the first three principles (GOR, AOF, and transitivity) quite nicely in the following passage. They write, of the various series of unactualized possibilities,

> at some point this series needs to be anchored by an exemplified [i.e., actual] dispositional property. Only with this base in place do the branching possibilities describe genuine possibilities. Regardless of how far one needs to travel back up the branch to get [to] the disposition whose supporting dispositional property is exemplified, the exemplification of the dispositional property is required. Without it, the 'possibilities' on the branch are not possibilities at all—they are beyond the range of what is possible.[184]

5 The Necessary Origin

If metaphysical possibility takes a branching form, and these branches only diverge from the actual world in the forward direction, then we are quickly led to the conclusion that all of the metaphysical possibilities share some *initial* causal portion in common with the actual world. For, just as the branches of a tree converge into a single trunk as you proceed downward, so too will the metaphysical possibilities converge into a single "trunk" as we move backward along the line of causality. So, the structure of metaphysical possibility looks something like this:

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[182] See: Pruss (2011), §I.3 ; Jacobs (2010), 24 ; Borghini and Williams (2008), 32, n. 28.

[183] Of course, the NAD theorist *could* suggest that both backward and forward branching are possible, but never occur *together* (i.e., in the same world)—or at least, that possibilities which do not share their initial portion in common with the actual world only branch forward in such a way that they *always, inevitably* converge with the actual world at some point. This would permit both converging and diverging worlds, but would rule out non-overlapping worlds such as w_2. But, this suggestion is incredibly *ad hoc* and counter-intuitive, and should therefore be dismissed.

[184] Borghini and Williams (2008), 32.

Figure 4: The Necessary Origin
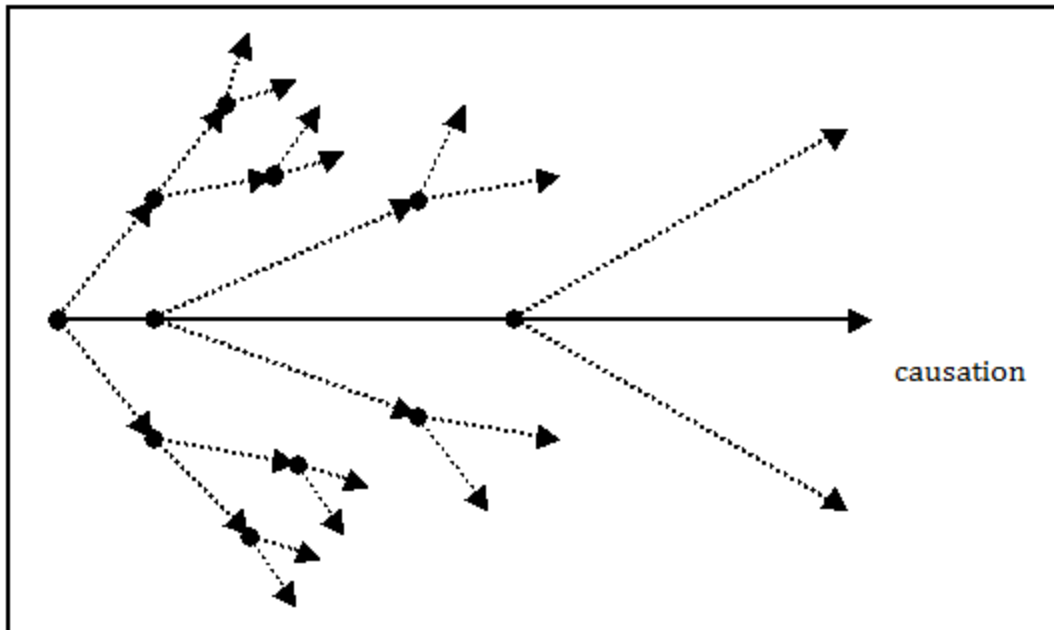
Notice that all of the individual branches in figure 4 can be traced back to the initial node. So, in the representation above, the initial node exists necessarily, since it is included in every one of the branching possibilities. But, the question remains: Given that all of the metaphysical possibilities must share some initial portion in common, how small can this shared portion be? Can it be as small as a *single* causal node, grounded in a single probabilistic disposition (as it is in figure 4)? As I will now demonstrate, according to NAD, *it can*.

Consider: *Some* of the various branching possibilities will share a rather *large* portion in common with the actual world. For instance, in the possibility where I wear the red shirt today instead of the blue one, that possibility will include everything from this (actual) world up until the moment of (or perhaps slightly before the moment of) my decision about which shirt to wear (and then it will diverge from there). But, given The Assumption of Open Futures, we know that the shared portion could be smaller than this. For, presumably the future was also open *yesterday*. That is, surely it was also metaphysically possible for me to have chosen to wear a different shirt *yesterday* (other than the one I actually wore). *That* possibility, then, (the one where I chose a different shirt yesterday) shares

only the initial segment of the world up until *yesterday* (and then diverges from there). But, surely I could have also chosen a different shirt *last week*. And so on, such that—assuming things could have been different billions of years ago (galaxies could have formed differently, etc.)—we move backward along the causal tree, subtracting earlier and earlier causal nodes until we reach the *first* of such nodes (if there is such a thing), from which *all* of the metaphysical possibilities diverge.

In short, if there exists a first causal node, then it is, so to speak, the fountain from which all of the metaphysical possibilities spring forth. All of the metaphysically possible branches would be anchored in it, such that the initial node would be included in *all* of the ways things could be. But, this is what it is to be a necessary being. So, the existence of a causally potent necessary being is compatible with NAD.

But, NAD is not *committed* to the existence of such a being. This conclusion is avoided if there *is no* first causal node. If the causal series of the actual world is beginningless, then, for there *is no* initial portion which all of the possibilities share in common; since, for *any* initial portion of the actual world that we might propose as necessarily existing (e.g., some portion from negative infinity to some later point in the causal series, Q), there will *always* be some possible world containing yet a *smaller* initial overlapping portion (e.g., from negative infinity to some earlier point in the causal series, P—assuming of course, that the appropriate probabilistic dispositions and manifestation conditions exist at P). So, the NAD theorist who finds the existence of a causally potent, necessary being unpalatable should say that the series of causal nodes extends backward, infinitely, without beginning. In either case, though, the result is that all of the metaphysical possibilities must share at least *their initial portion* in common—and, as we have just seen, this portion *may be* only as small as the first causal node (if there is such a thing). The argument has been the following:

Argument: Two Choices for NAD
1. Assumption: Possibility is grounded in the actual, dispositional properties of actual objects; i.e., New Actualist Dispositionalism (NAD) is true.
2. If NAD is true, then all of the possibilities share some causally potent portion in common with the actual world; i.e., The General Overlap Requirement (GOR) is true.
3. If both NAD and GOR are true, then the metaphysical possibilities are branches that diverge from the actual world at the various causal nodes.
4. Assumption: The future is open; i.e., (AOF) is true.
5. Assumption: The modal accessibility relation is transitive; i.e., (4) is true.
6. If GOR, AOF, and (4) are all true, then the unactualized possibilities only diverge from the actual world in the forward direction.
7. If both GOR is true, and branching occurs only in the forward direction, then all of the possibilities must share some *initial* causal portion in common with the actual world.
8. The initial causal portion of the actual world is either finite or infinite.
9. Therefore, either there exists at least one or more necessary causally potent entities, or else there is necessarily an infinite series of contingent, causally potent entities.

My argument has been to demonstrate the following: The philosopher who proposes that the modal truthmakers are the actual, dispositional properties of actual objects (i.e., the NAD theorist) is committed to one of two conclusions:

Two Choices for NAD
1. There exists at least one causally potent necessary being (i.e., some first causal "node" which grounds all of the metaphysical possibilities).
2. The universe is necessarily beginningless (i.e., the series of causes in every possibility extends backward infinitely).

These options are striking. What began as a movement toward a simpler theory of modal truthmakers turns out to entail something much more surprising; namely, that the actual world either contains at least one causally potent necessary being, or else it is beginningless. Either way, the New Actualist Dispositionalist ends up committing herself to a conclusion which reaches much farther than the questions which New Actualist Dispositionalism was originally intended to answer. This result may be seen as a strike against NAD for those who would find it objectionable if our theory of modal truthmaking committed us to the existence of either a necessary being or an actual

infinite. On the other hand, the view should be quite attractive to theists, who already embrace the first of these two options.[185]

6 Indeterminism and Alternate Possibilities

As we have seen, the modal truthmakers are *causal nodes* on the NAD account. What is metaphysically possible, then, is just whatever is able to be causally brought about. But, in order for some state of affairs other than the *actual* ones to be brought about, those causal nodes must be indeterministic—that is, in order for there to be unactualized possibilities at all, the dispositions which are the modal truthmakers must only *probabilify* their outcomes.[186] If each node *determined* its outcome (with a probability of one), then possibility would not take a branching structure—or rather, there would only be one "branch" off of each disposition-node, such that all of the metaphysical possibilities would only trace a single straight line (i.e., the actual world).

The Assumption of Open Futures (AOF) requires that there are viable alternatives to what actually occurs, however. But, in order for the future to be open, indeterminism must be true.[187] As William James puts it, unless indeterminism is true, then "The future has no ambiguous possibilities hidden in its womb. … Any other future complement than the one fixed from eternity is impossible."[188] David Lewis notes that, according to the branching theorist, there would be an

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[185] For instance, Alexander Pruss explicitly endorses the view that God, a necessary being, is the first causal node which grounds all of the metaphysical possibilities. See: Pruss 2011, §VI.2.3-4.

[186] Here, I mean to say that there is indeterminacy whenever a cause is *objectively* probabilistic. (A coin can be said to have a 0.5 probability of landing heads, but this is only a subjective probability, given our epistemic limitations. For instance, if we knew the weight of the coin, velocity of the flip, direction and speed of the air current, etc., the objective probability of the coin landing heads would either be 0 or 1). By "probabilistic cause", I mean one that has an objective probability between 0 and 1, non-inclusive, of producing a given effect.

[187] Compare with: "Without the fixity of the past, *indeterminism would yield* open pasts as well as open futures, and hence backwards branching as well as forward branching." Mackie (2006), 107n (emphasis mine).

[188] James (1896).

absence of branches if determinism were true.[189] Penelope Mackie states that there are no unactualized metaphysical possibilities for Julius Caesar on the branching conception of possibility "unless we assume that there were times in his existence at which various alternative futures were open to him."[190] And Alexander Pruss points out that causal dispositions either necessitate or possibilify their outcomes, depending on whether or not they are deterministic:

> Dispositions would seem to both possibilify and necessitate. Suppose Churchill has a *deterministic* disposition to reject the bribe. Then, this disposition necessitates his rejection should he be offered the bribe under the circumstances involved in the disposition's antecedent. ... If his disposition is indeterministic, then we cannot say that it necessitates the rejection, but at least it seems we can say that it possibilifies it ...[191]

So, given the Assumption of Open Futures, the branching theory *requires* that indeterminism is true. The alternative is that the future is not open at all; for, if indeterminism is false, then there is on and only one possible future. This is only one of three worries raised by Graeme Forbes concerning the branching view of modality:[192]

Three Worries Regarding Branching and Determinism
(1) "First, if the laws of the branching world are different from the actual laws, how can that world and the actual world have a common initial segment?"
(2) "Secondly, if the actual world's laws are deterministic, the branching world's laws must be indeterministic."
(3) Third, on the branching conception of possibility, "deterministic worlds with an initial segment of their history in common never branch."

We might respond to these three worries as follows:

(1) Since all of the possible worlds must share some initial portion in common, *all* worlds *will* share some laws in common—or, rather, they will *at least* share some "super-laws" in common. Therefore,

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[189] Lewis (1986), 209. Though, note that when Lewis discusses the "branching" view, that view is more akin to the sort of branching view that physicists talk about, where *all* of the branches are actualized.

[190] Mackie (2006), 105.

[191] Pruss (2011), 239-240. Also, see 213.

[192] Forbes (1987), 305-306.

the first result of NAD is that it is metaphysically impossible for the laws to have been *completely* different.

(2) In light of the first answer, it turns out that, on NAD, either determinism or indeterminism is a necessary truth—that is, either *all* of the metaphysical possibilities contain *at least one* indeterministic causal node, or *none* of them do (if the latter is the case, however, then there is only *one* metaphysically possible world; namely, the *actual* world).

(3) The third point is just a recognition of the last part of the second. As just stated, *if* the world is *utterly* deterministic—i.e., if determinism is true "all the way down" the series of causal nodes—then the actual world has no branches; no branching possibilities. But, in that case, everything actual is metaphysically necessary.

I will discuss these issues in more detail in the next section (§7, below). First, I would like to motivate the idea that the conclusions entailed by NAD regarding determinism are less worrisome than they may seem: Imagine that the world is *completely* governed by deterministic laws—by "completely" deterministic here, I mean *utterly* deterministic, such that *all* of the causal nodes in existence are deterministic nodes (i.e., even the ones causally responsible for the physical laws—whether that node be something like a singularity, or a God, or what have you). This is a much stronger version of determinism than philosophers typically have in mind; so, call this *determinism**. In short, if the actual world is a determinism* world, then not only are the *present* laws or dispositions deterministic, but so are the "super-laws"—i.e., whatever more fundamental laws or dispositions are causally responsible for the present laws. If determinism* is true at the actual world, then there is determinism "all the way back" (causally), or "all the way down," so to speak.[193] Now, if *that* is what the actual world is like, then why should it be so surprising that there are no other "ways things could be"? It seems intuitively true that, if *everything* in the world is deterministic, then nothing

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[193] That is, "down" through the chain of dependence, to those entities which are ontologically prior, or more fundamental, etc.

could ever go any other way than it in fact goes. This is, at least, the ordinary intuition regarding the nature of possibility.

As we have just seen in this section, the fact of whether or not our modal truthmakers (i.e., dispositional properties) are deterministic will have radical implications for metaphysical possibility. Though I wish to remain neutral on the subject of whether or not determinism* is true, it is worth mentioning that our modal intuitions that things *could have* been otherwise are typically *very* strong. In light of this fact, the implications of determinism* are incredibly counter-intuitive, and this may in fact be grounds to reject determinism*. Indeed, such a move is *required* by those NAD theorists who endorse The Assumption of Open Futures.

7 Objections

7.1 This is Nomological Possibility, Not Metaphysical Possibility

Recall our original desiderata for a definition of metaphysical possibility, from chapter 1:

Three Desiderata For Metaphysical Possibility:
(1) It is potentially narrower in scope than logical possibility.
(2) It is potentially broader in scope than nomological possibility.
(3) It rules out inconsistencies based on logical, semantic, and metaphysical considerations.

One may wonder whether we have presented an account of metaphysical possibility that fulfills desideratum (2). It may seem that, since the metaphysical considerations that ground the metaphysical possibilities are, on the NAD account, just the *causal* entities (e.g., dispositional properties), that view is really giving an account of nomological possibility—not metaphysical possibility. But, this is not the case.

Nomological possibility is the variety of possibility that is consistent with the actual laws. When considering what is nomologically possible, we take consider the actual laws as *fixed*. But, then, if NAD is offering an account of metaphysical possibility which is no different than nomological possibility, then NAD should entail that the actual laws could not have been different. But, this is

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not the case. There *is* room in the NAD theory for the conclusion that the laws could have been different. Consider: The proposition, <Something travels faster than the speed of light> is a good candidate for a proposition which is nomologically impossible. But, then, if the NAD view is offering a definition of metaphysical possibility that is just nomological possibility in disguise, then the proposition <Something travels faster than the speed of light> should also turn out to be metaphysically impossible on that view. It turns out that the proposition is metaphysically *possible*, however.

Explanation: On the branching conception of metaphysical possibility, the branches where the present, actual-world laws are true may only compose a *portion* of the entire possibility tree. This would be the case, for instance, if there is some causally potent entity which is *causally responsible* for the present laws, and could have caused the laws to be different. For instance, if there is a causally potent God, who is responsible for the present laws, then those laws could have been different. Pruss, a NAD theorist, supports this conclusion, proposing that there is "a necessary first cause … that non-deterministically produces the historical universe and grounds the possibility of other histories, and indeed of there being other laws of nature."[194] The causal node which gave rise to the laws need not be a God, however, for perhaps there are other ways that the initial causal portion of the actual world could have possessed the relevant dispositions to bring about a universe with different laws (for instance, if the singularity from which our universe originated possessed the relevant indeterministic dispositions).

So, NAD is not offering an account of metaphysical possibility which is just nomological possibility in disguise. On the other hand, NAD *is consistent* with the view that metaphysical possibility collapses into nomological possibility. This would be true, for instance, if there *is no* actual indeterministic causal node prior to the formation of our present laws which could have produced a

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[194] Pruss (2002), 331.

different set of laws—i.e., if the actual world is a determinism* world. In that case, the present laws would be metaphysically necessary.[195]

Now, even if NAD endorses determinism* such that metaphysical possibility *collapses* into nomological possibility, it would be a mistake to draw the conclusion that, therefore, metaphysical possibility and nomological possibility are one and the same thing according to NAD. At best, it would only be the case that metaphysical possibility is *co-extensive* with nomological possibility (i.e., everything that is metaphysically possible is nomologically possible, and vice versa). But, this does not entail that these are the *same* variety of possibility. For, nomological possibility would *by definition* yield the result that the laws could not have been diferent (since it holds the laws fixed, treating them as necessary, without answering the question of whether or not they are in fact *metaphysically* necessary), while metaphysical possibility would yield this result as an outcome of certain metaphysical commitments (e.g., about the deterministic nature of all actual, dispositional properties)—and this is not a violation of desideratum (2), which merely requires that metaphysical possibility be *potentially* broader in scope than nomological possibility.

In any case, if the objector insists that this view of metaphysical possibility is not broad enough to warrant that name, I will merely point out that it *is* nevertheless a viable and interesting variety of possibility that meets the three desiderata I have stated up front. If it requires some other label, then we may simply call it "super-nomic possibility" or "metaphysical* possibility", as others have done.[196]

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[195] Shoemaker endorses this view, for instance (1998).

[196] Roy (1993), 346; Borghini and Williams (2008), 21n.

7.2 Conceivability ≠ Possibility

Conceivability is not a guide to metaphysical possibility if the present account is correct. I will not attempt to refute this accusation, since I accept its conclusion, as do most NAD theorists.[197] Many of the examples from the present chapter have demonstrated that this conclusion is unavoidable for NAD. For instance, we saw that, for NAD, things could not have been completely different (since all of the metaphysical possibilities must share some initial causally potent portion in common with the actual world). It is conceivable that things could have been completely different, however. Furthermore, in the next chapter, I will defend another example: The necessity of origin, which, if true, entails that I could not have had some other origin (e.g., I could not have come from a different sperm-egg combination). But of course, it is conceivable that I could have. Therefore, it is clear that on the view I am defending, conceivability does not entail metaphysical possibility.

Some philosophers will not find this result very appealing, however; for example, David Chalmers,[198] who relies heavily on the connection between conceivability and possibility in the mind-body literature. But, why should it be the case that every internally consistent scenario which can be conceived is one that is some "way things could be"? This does not obviously follow. As Borghini and Williams state,

> Why does it seem so offensive that some conceivable states of affairs should turn out to be metaphysically impossible? … There are many states of affairs that strike us as *epistemically* possible: they are the states of affairs that *for all we know* could have taken place. But it is not the job of an account of metaphysical possibility to provide truthmakers for all those epistemic possibilities. Some of those epistemic possibilities will be genuine metaphysical possibilities (all those for which the relevant dispositional property exists), but just as many will not.[199]

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[197] See Borghini and Williams (2008), 37; Jacobs (2010), §4.3; Contessa (2010), §2.

[198] See Chalmers (1996) and (2002).

[199] Borghini and Williams (2008), 37.

Is there any modally relevant role left for conceivability to play, then? Yes. I maintain that conceivability entails, not metaphysical, but *logical* possibility. Consider first the narrow variety of logical possibility: Since narrow logical possibility is just whatever is not ruled out by internal inconsistency, given the logical truths, then any scenario that can be conceived is automatically logically possible in the narrow sense (presuming that one cannot coherently conceive a scenario with internal inconsistencies).[200] But, if the conceiver is aware of the *semantic* truths, then conceivability will also entail logical possibility in the *broad* sense. Thus, conceivability is still illuminating with regard to logical possibility. Furthermore, to some extent, it is informative regarding *metaphysical* possibility as well. For, if there is some scenario that is inconceivable due to an internal inconsistency, this will entail that the scenario is logically *im*possible—and, as we saw in chapter one, any scenario that is logically impossible "trickles down" such that it is also metaphysically impossible.

7.3 Modality is a Primitive

On the dispositional version of Non-Ersatz Actualism (NAD), it is clear that modality is not reduced (since bare dispositions are primitively modal properties). The NAD account proposes that <P is metaphysically possible> gets analyzed as <P is a possible manifestation of some actual dispositional property, past, present, or future>. This is not a reductive analysis, since the analysis of "possible" makes use of a modal notion. So, if the account is to be non-circular, modality must be taken as a primitive. In short, NAD proposes that modality cannot be analyzed in non-modal terms. Rather, modality is a primitive; i.e., modality is one of the fundamental features of reality.

Some have thought that any theory which cannot analyze modality in non-modal terms is somehow flawed, however. But, accepting some modal notion (e.g., possibility) as a primitive does

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[200] One might think that many "impossibilities" *are* conceivable (e.g., the drawings of MC Escher). Reply: Though such drawings in some sense *do* depict "impossibilities," they are only incomplete 2-dimensional representations of 3-dimensional impossibilities. However, I still maintain that *complete* conceptions of logical impossibilities are not possible.

not seem to me to be undesirable. It may, in fact, be unavoidable. Indeed, it is not clear that any of the three leading views of modality escape this conclusion. Consider the three most popular views of modality: Ersatzism, Lewisian realism, and combinatorialism. The first explicitly endorses a modal primitive, and the latter two views have been accused of implicitly doing so. First, take Plantinga (an ersatzer), who says,

> a possible world is a certain kind of possible state of affairs. Such modal notions as possibility and necessity, then, are not to be defined or explained in terms of possible worlds; the definition or explanation must go the other way around. … Modal discourse, therefore, cannot be reduced to non-modal discourse.[201]

The ersatzers have been forced to this conclusion (to take modality as a primitive) in light of widespread criticism.[202] The criticism is roughly that, if modality is not a primitive, then there is no way to distinguish impossible states of affairs from possible ones. For, the ersatzer's claim is that <Possibly, P> is true in virtue of the fact that <At some world, P> is true. But, then, even *impossible* modal propositions would be true if just *any* worlds were allowed into our ontology. So, it seems that what the ersatzer is *really* claiming is that <Possibly, P> is true in virtue of the fact that <At some *possible* world, P> is true—and, unless those worlds are just primitively possible, the account is circular. So, it must be the case that the *possible* sets of states of affairs are just *primitively possible*, with no further explanation.

Armstrong (combinatorialism) and Lewis (extreme realism) have been accused of having a similar difficulty. For instance, on combinatorialism, <Possibly P> gets analyzed as <P is any recombination of actual particulars and actual properties>. The problem with this is that propositions such as <The ball is all red and all blue> or <The ball is 5kg. and 10kg.> are recombinations of actual particulars and actual properties—and so make suitable candidates for P— and yet, it seems like these cases should turn out to be metaphysically impossible. So, similar to the

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[201] Plantinga (1985), 89.

[202] See Lewis (1986), 156; Sider (2003), §3.2.

problem which ersatzers face, combinatorialism requires some way to distinguish the *possible* re-combinations from the *impossible* ones. Armstrong attempts to repair his position by just *stipulating* that particulars and properties are such that they are not capable of being recombined in a way that results in one particular having two determinate properties falling under the same determinable—but it is questionable whether or not this repair truly avoids the introduction of an irreducibly modal notion. Indeed, even Armstrong's claim that particulars and properties cannot exist *alone* (he says that they cannot be "bare", but can only exist as constituents of states of affairs) seems to involve some non-trivial, un-analyzable necessity.[203]

Regarding Lewis's view, in chapter 3 (during a discussion of the plenitude, metaphysical accident, and epistemological objections), we saw that, while Lewis's view may in fact be successful in its reductive endeavors, its success comes at a high price: It renders modality a mere accident and results in modal skepticism. So, with reduction so difficult to achieve and requiring so a high a price to pay, one may wonder: Why bother? What are the benefits of reducing the modal truths to non-modal ones? Ted Sider offers three reasons why reductionism is preferable to modal primitivism:

Three Reasons to Prefer Modal Reductionism[204]
(1) Epistemological – "The epistemology of the modal can be secured if modal notions are defined in terms of notions whose epistemology is secure."
(2) Metaphysical – "Reductionism is required by any ontology that claims to give a comprehensive account of reality in terms of primitive entities and notions that do not include modal notions."
(3) Parsimony – "The metaphysician prefers desert landscapes when she can get them; when it is possible to reduce, we should."

Let us examine each of these three reasons in turn:

(1) The first reason states that reductive accounts of modality offer modal knowledge that is more epistemically secure than non-reductive ones, simply because the things which the modal notions are reduced *to* have a firmer epistemological ground. Presumably, Sider's assumption is that

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[203] See Armstrong (1989), §6.2 and ch. 10; Armstrong (1997), §4.12. See also Sider (2003), §2.3; Melia (2003), 138-140.

[204] Sider (2003), §2. For a nice summary of these, see Dyke (2008), 149-150.

this is uncontroversially true, since "there is something elusive about modal notions." But, is this assumption correct? I have argued that, if reduction of modal notions is even *possible*, Lewis's account seems to be the only one on the market which succeeds. But, as we saw in chapter 3, that view results in radical modal skepticism. Furthermore, the epistemological problem facing NAD seems to be more over the question of *how* a property can be primitively modal, rather than *what* is metaphysically possible. Admittedly, it is difficult to understand how an object can have a primitively modal property, but this does not entail that our knowledge of what is possible is undermined. For, the question of how primitively modal properties exist at all and what things are metaphysically possible (in light of the existence of such properties) are two entirely different questions—and, as I will argue in the next section on modal skepticism (7.4), NAD's answers to the second question are more epistemically secure than those of its competitors.

(2) As for Sider's second reason, he seems to be saying nothing more than, "If you want reduction, or claim to have a reductive account, then you should be a reductionist." But, preferring reductionism is not itself a reason to prefer reductionism.

(3) The third reason Sider offers is parsimony. While it is true that NAD theory does not offer parsimony regarding the number of *primitives* in one's ontology, as we saw in chapter 3, it *does*, in light of its rejection of possible worlds, have parsimony of a different sort: For, NAD requires neither the different-in-kind ersatz worlds of, e.g., Alvin Plantinga, nor the infinite number of concrete, non-actual entities of, e.g., David Lewis to ground the modal truths.

I conclude that the supposed reasons why reductionism is preferable to modal primitivism are not very persuasive, and that taking modality as a primitive is not as a high price to pay—and indeed, I believe that we *ought* to be willing to pay it. Perhaps we should admit that, as Melia notes,

It is possible that, at the fundamental level, there is nothing more to say about the basic kinds of entities than that they have certain irreducible tendencies and dispositions to behave in certain ways under certain conditions.[205]

7.4 Modal Skepticism

In the previous section, we examined the accusation that primitivism is not an epistemically secure view. Presumably, this is because primitive modal properties are mysterious and ill understood. However, this does not render our *modal* knowledge unsecure. As I understand it, the mystery lies in the question, "How can a property be primitively modal?" But, having modal knowledge means having an answer to the question, "What things are metaphysically possible/necessary?" Having an imperfect answer to the first question does not entail having an imperfect answer to the second, however. Furthermore, I believe that NAD is the view that is *best* suited to answer the second question.

Now, the question of how we can know what things are metaphysically possible is a difficult one for *any* view of modality. Even those philosophers who accept that conceivability entails possibility usually claim that only the conceptions of an *ideal* conceiver perfectly map onto possibility—and ideal conceivers, we certainly are not.[206] But, as we have seen, NAD entails that conceivability is not a guide to possibility. Given that we do not have *a priori* access to metaphysical modality, one might suspect that NAD cannot supply a satisfactory answer to the question, "What things are possible/necessary?" But, if the unactualized possibilities are grounded in the dispositional properties of concrete objects, modal knowledge is merely a matter of empirical and philosophical investigation. As Pruss points out, for instance, on this account, "Possibility is nothing but capability, and we know the capabilities of human beings."[207] And we know the capabilities of other

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[205] Melia (2003), 13.

[206] See Chalmers (2002), for instance.

[207] Pruss (2011), 251.

individuals as well. For instance, regarding the question of which dispositional properties are possessed by inanimate material objects, we may consult the physicists. Furthermore, since NAD invokes a branching conception of modality where the unactualized possibilities are branches which diverge from some portion of the actual world's causal past, we need only consult the physicists in order to learn what this past was like (and what dispositional properties were plausibly present there).

Of course, the causal past of the actual world *may* include mysterious entities such as gods or singularities. In that case, we must consult the philosophers of religion or the speculative cosmologists to tell us whether or not such entities exist (or existed), and what these entities are capable of causing. Finally, as we saw in the previous chapter, whether or not there are unactualized possibilities will ultimately depend upon whether or not indeterminism is true. So, the issues of whether or not there is libertarian free will, and whether or not there is quantum indeterminacy also become relevant here. In short, modal skepticism results from NAD only if we believe that questions regarding physics, free will, and God are unanswerable (i.e., whether or not we believe that an empirical investigation of the dispositional properties of concrete objects is possible). But, none of these endeavors seem to me to be hopeless ones—or, if they are, then the whole of both physics and philosophy is an effort in futility.

7.5 The Necessary Concrete Being

I have argued in the present chapter that there are only two options for NAD: Either there exists a causally potent necessary being, or else there is necessarily an infinite series of contingent beings. Now, one might attempt to argue that NAD—indeed, *all* truthmaker necessitarians—are actually *committed* to the existence of one or more necessary beings, since all of the modal truths are necessary truths (i.e., $\Diamond P \rightarrow \Box \Diamond P$ is an axiom), and necessary truths require necessarily existing

truthmakers. But, this is a mistake. A truth can be a necessary truth without having a necessarily existing truthmaker.

Now, it *is* the case that any *contingently* true proposition must have a truthmaker which is also contingent. For (on truthmaker necessitarianism), if X is a truthmaker for P, then necessarily, if X exists, P is true. According to this principle, if X exists necessarily, then P would be a necessary truth (because X makes P true in every world where it exists). However, it is *not* the case that, for any *necessarily* true proposition, P, its truthmaker must also be necessary. Consider, for instance, the proposition <Something exists>. This might be a necessary truth, but its truth does not require a necessarily existing truthmaker—it would still be necessarily true, for instance, even if there were only one contingent being in each of the metaphysically possible scenarios.[208]

Nevertheless, NAD is of course *compatible* with the existence of a necessary, non-ersatz (i.e., concrete) being—this was, after all, one of the conclusions which I argued that NAD must endorse. The idea that something concrete can be necessary is not entirely foreign, however. Theists are quite happy to accept it, for instance. Alvin Plantinga writes, "God … is the only concrete object that exists in every possible world."[209] Obviously, Plantinga is not using the term "concrete" as synonymous with "material" here. Rather, Plantinga (and I) take "concrete" to refer instead to any *non-derivative* or *non-representational* entity. Yet, NAD *is* compatible even with the existence of a necessary *material* being—a much more surprising conclusion. Consider an example, inspired by Robert Adams: Imagine a possible world, w, which contains only two qualitatively identical iron globes. The globes do not causally interact and there is nothing in w which causally interacts with

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[208] For more, compare [Armstrong (2004), §7.2] with [Hudson (1997)]. I am, of course, assuming that states of affairs such as "there being something" or "something's existing" are not genuine states of affairs; i.e., each genuine states of affairs must be composed of a particular, a universal, and a relation—and "something" is not a particular.

[209] Plantinga (1985), 90.

them (for, there is nothing else at all).[210] Furthermore, neither of the globes' dispositional properties

are such that their manifestation will ever result in the destruction of the globe. At w, is it

metaphysically possible for there to have been only one globe rather than two? On the present view,

it seems that the answer is "No". For, at w, the globes exist *necessarily.*

Many philosophers will see this result as an incredible weakness of this dispositionalist version of

the ANT view. Typically, it is thought that all material objects are necessarily contingent. Our

intuitions demand that, *somehow*, it is possible for one the globes to fail to exist. Forbes writes,

> For instance if the globes in *w* are contingent existents, then there is a world *w′* which is just
> like *w* except that in it only one of the *w*-globes exists. It is then impossible for *w* and *w′* to
> have an initial segment in common, since at any time there are two globes in *w* and only one
> in *w′*, and so it would follow, by the generalized branching conception that there is no world
> in which only one of those globes exists, contradicting our initial specification that the
> globes are not necessarily sometimes co-existent. To deal with this difficulty, we need the
> notion of a *separable* course of events in the history of a world *w*, a notion which will enable
> us to count amongst the worlds branching from *w*, worlds which consist in or extend a
> separable course of events in *w*. Causal isolation would be one criterion of separability …[211]

As Forbes correctly points out, the branching conception of metaphysical possibility implies that

world w' (where only one globe exists) is metaphysically impossible at w (where both globes exist).

Forbes sees this as a problem only because he has stipulated that the globes "are contingent

existents". Therefore, in order to avoid the counter-intuitive result that world w' is impossible at w,

Forbes invokes a notion of separability. His conclusion seems to be that, if the two globes are

logically separable, then it is metaphysically possible for one to exist without the other. This seems

quite close to the position that conceivability entails metaphysical possibility. That is, since it is

conceivable that one globe exist without the other, it is therefore *possible*. But, we saw above that there

is no reason to think that conceivability entails metaphysical possibility. Above, I suggested that

conceivability maps, rather, onto *logical* possibility. So, while w' is *logically* possible at w, it is not

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[210] Adams (1979a), 22.

[211] Forbes (1985), 151.

metaphysically possible at w. This is a very restricted notion of metaphysical possibility, to be sure, but one in keeping with those desiderata laid out in chapter 1 (reiterated in §7.1 of the present chapter).

Note that the tension only occurs if we *assume* that the iron globes are contingent beings. But, why must they be? We likely assume it only because the destruction of a material object is *conceivable*, or because the assertion that any particular material object does not exist *does not yield an inconsistency*. But, as I have argued in several places within the present work, these reasons confuse metaphysical possibility with conceivability, or logical possibility. Neither conceivability nor logical possibility guarantee metaphysical possibility, however. The fact that NAD does (in theory) allow for iron-globes to be necessary beings should therefore not trouble us. But, ultimately this example is not even an issue, since the iron-globe world really turns out to be metaphysically impossible after all: Since the iron-globe world shares no overlap with the actual world, it violates The General Overlap Requirement. So, as it turns out, NAD is not committed to the existence of necessary, material beings—unless, of course, there are *actually* some. The likeliest candidate for some *actual* necessary concrete being, however, would be something as innocuous as space-time, or God, or perhaps the singularity from which our universe came—certainly not some material object such as an iron globe.

7.6 Something Completely Different

On NAD, *things could not have been completely different*. This is due to the General Overlap Requirement, which states that all of the metaphysical possibilities must share some causally potent portion in common with the actual world. This requirement rules out both the metaphysical possibility of an empty world as well as that of a world which is completely different than the actual world.

The Empty World: The possibility of an empty world is ruled out by the NAD view. But, this should not be that surprising, since *any* actualist about modal truthmakers (who also holds that the accessibility relation is symmetrical) must reject this possibility. Consider: On any actualist account

of modal truthmaking, at any possible world, the actual world should turn out to be possible at that world. But, now consider the empty world: At such a world, by definition, *there are no* modal truthmakers there (it is empty!). So, at such a world, the actual world (which is not empty) is metaphysically impossible, and therefore (by the symmetry of accessibility), the empty world is impossible at the actual world. David Armstrong rejects this conclusion (though he originally endorsed it), claiming that the truthmakers for the possibility of the empty world are *at the actual world*.[212] Armstrong's view seems incorrect, however, for it *should* turn out to be the case that, for any possible world, the actual world would be possible at that world, *were that world actual*. For, each world requires *its own* modal truthmakers. In short, actualism in conjunction with S5 and truthmaker theory entails that the empty world is metaphysically impossible.

Ross Cameron examines an argument for the possibility of an empty world (i.e., metaphysical nihilism), adapted as follows:

> **Argument For Metaphysical Nihilism**
> 1. It is possible that there be only finitely many concrete things.
> 2. For every concrete thing, it is possible that it not exist.
> 3. The non-existence of any particular concrete thing does not necessitate the existence of any other concrete thing.
> 4. Therefore, it is possible that *nothing* exists.[213]

Note, however, that the NAD theorist would reject the first two premises. For, recall that NAD is committed to the existence of either one or more necessary concrete beings, *or else there is **necessarily** an infinite number of contingent concrete beings*—so premise 1 may in fact be false. Furthermore, as we have just seen, premise 2 may also false, since NAD allows for the existence of necessary concrete beings (e.g., God). In any case, the conclusion that the empty world is metaphysically impossible does not seem a terribly disagreeable result. As we have seen, Plantinga

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[212] Compare Armstrong (1989), §2.4.4 with Armstrong (2004), §7.4.

[213] Cameron (2006), 195. Note that Cameron does not endorse this argument, and is agnostic about whether or not the empty world is possible.

endorses this result; Armstrong endorsed it for much of his career; and even David Lewis's system seems to be committed to it, since, for him, the metaphysical possibilities correspond to the various concrete worlds—but an utterly *empty* "world" is not a world at all. Rather, it is nothingness.[214]

The Completely Different World: A harder bullet to bite might be the requirement that, on NAD, of all of the possible worlds (which are necessarily non-empty), none of them are completely different from the actual world. Vetter lists this as one of the greatest worries for the New Actualism.[215] Philosophers have typically held that things could have been entirely different than they actually are. But, recall that NAD is committed to the General Overlap Requirement. On NAD, any unactualized state of affairs must be one that could be *causally brought about* by some *actual*, causally potent entity. In that case, all of the unactualized possibilities must share some causally potent entity in common with the actual world. Nevertheless, it is still the case that *in some sense* things could have been completely different—or at least, the *physical universe* could have been completely different (for instance, if the actual causal node responsible for the existence of the physical universe possessed the relevant dispositions)—and perhaps this possibility is enough to appease the intuition behind the present objection. Pruss, for example, takes this to be a satisfactory response to the present worry:

> Indeed, we can say that the present system … allows for global possibilities—for the whole temporal sequence to have been different—because it has a God who of logical necessity is the first cause and can create different cosmic systems.[216]

7.7 Alien Properties

If the present view is correct, then one might wonder whether or not alien properties (i.e., properties that do not actually exist) are possible. An argument for the conclusion that alien

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[214] See Rodriguez-Pereyra (2004).

[215] Vetter (2011), 752.

[216] Pruss (2001), §2.9. Note that NAD theory does not demand that the causal node responsible for the physical universe be God. Pruss himself admits that "one might … allow for global possibilities such as of the laws of nature being different or of none of the actual contingent beings existing, by invoking a *non-theistic* first cause for history, such as some event prior to the Big Bang in some superuniverse." [Pruss (2002), 332]

properties *should* be possible might run as follows: Imagine that there are in the actual world only five properties. Certainly a "poorer" or "contracted" world—say, with only four of these properties—is metaphysically possible. But, given the symmetry of accessibility, the actual world is metaphysically possible at such a world. If so, then an alien property—i.e., the missing *fifth* property—is metaphysically possible at that world. But, now imagine that the *actual* world is a contracted world. In that case, alien properties (e.g., some *sixth* property) are metaphysically possible at the actual world.

Now, it should be noted that, if by "alien property" we simply mean some kind of "second-order" property—i.e., a property that can be constructed from or produced by previously existing ones—then NAD has no difficulty accounting for the possibility of alien properties. Such alien properties are metaphysically possible so long as some portion of the actual world possesses the relevant dispositions to produce them. But, "alien property" often refers to those sorts of properties which cannot be produced via the recombination of (or manifestation of, in the case of dispositional properties) previously existing ones. The problem, then, is this: On NAD, the existence of any non-actual properties must be possible in virtue of actual ones (since the metaphysical possibilities are grounded in actual dispositional properties). But alien properties are, on this definition, ones that *cannot* be generated by previously existing properties. Therefore, *this* sort of alien property is metaphysically impossible on NAD (and this contradicts the conclusion of the argument above).

Is this a problem for NAD? First, recall that NAD requires that some initial causally potent portion of the actual world be included in all of the possibilities. In that case, it will turn out either that there are "first-order" dispositional properties—i.e., ones which cannot be produced via the recombination or manifestation of other dispositions—and these exist necessarily (either because they are included in the "first" causal node which all of the possibilities share in common, or else because they have existed eternally, such that all of the branching possibilities include them); or else

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there *are no* first-order dispositional properties, but only an infinite series of second-order ones (i.e., properties which are the manifestation of other properties, which are the manifestation of other properties, and so on). In either case, the conclusion is that expanded and contracted worlds (i.e., worlds with a greater or fewer number of first-order properties) are metaphysically impossible, since first-order properties either exist necessarily (if they exist at all), or else they are metaphysically impossible.

Some philosophers may see this result as a strike against the non-ersatz, actualist account of modal truthmaking. The actualist, non-ersatzist does not. Demanding of NAD that alien properties are metaphysically possible is, as Borghini and Williams point out, equivalent to requiring the following proposition to be true: <It is possible that something exists that could not have been brought into existence by anything actual>. And this explicitly denies the central thesis of actualist non-ersatzism.[217] It is worth noting here that Armstrong originally denied the possibility of alien properties, allaying the worry (that this result is counter-intuitive) by pointing out that, while it seems *epistemically* possible that there are such properties, conceivability does not entail possibility.[218] Furthermore, David Lewis has also been accused of being unable to accommodate alien properties.[219] My point here is that the possibility of alien properties is not one that is firmly fixed in metaphysics. Our intuition that such properties are possible is tenuous at best. So, the fact that NAD rules them out does not provide adequate grounds for rejecting the view.

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[217] Borghini and Williams (2008), 38.

[218] Armstrong (1989), §4.1. Though, he later rejects this position in (2004), §7.3.

[219] Divers and Melia (2002). Though, it seems more likely that Cameron is correct when he points out that Lewis is only unable to provide a principle which *ensures* that there are alien properties—but, this does not entail that Lewis is committed to the claim that such properties *do not exist* anywhere in his pluriverse. [Cameron (2012), §3] For more on Lewis's problem with *ensuring* the plenitude of worlds, see the plenitude objection to his view in chapter 3.

CHAPTER FIVE

THE NECESSITY OF ORIGIN AND THE RECYCLING PROBLEM

Introduction

In the previous chapter, I argued that the dispositional version of ANT theory entails some version of a necessary origin view. In this, and the following chapter, I will argue that the entailment goes the other way as well. In this chapter, I will defend the necessity of origin thesis for particular individuals—i.e., the thesis that origin is a necessary and sufficient condition for identity— and in the following chapter I will argue that this thesis entails some causal version of the ANT view.

The idea that particular things have their origins essentially is appealing. For instance, it seems true that the table in front of me, which was made from a certain hunk of pine wood, could not have originated from, say, a block of ice. In other words, it seems that certain features of this table's origin are necessary for the table's existence. This idea that particular things have their origins essentially was famously argued for by Saul Kripke.[220] In a footnote of his *Naming and Necessity*, he offered a brief sketch of a proof for this position, and thereby laid the foundations for other, later and more careful arguments which were similar in spirit.[221] These "Kripke-style" arguments have fallen under heavy criticism, however. Here, I will address the most damaging of those criticisms—the recycling problem.

In section 1, I briefly lay out the central features of all Kripke-style arguments. These all begin with a sufficiency premise, which states that any sufficient condition (S) for a particular identity (R) must be both *lonely* and *exclusive*. First, there cannot exist, in addition to S, any other sufficient

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[220] Kripke (1980), 114.

[221] E.g., Forbes (1980); Salmon (1981).

condition for identity R which can be satisfied by a distinct individual within the same world as S (call this The Loneliness Requirement). Furthermore, it must be impossible for more than one individual to satisfy S within a world (call this The Exclusivity Requirement).[222] The recycling problem—which I describe in §2—undermines the view that origin is a plausible candidate for S by demonstrating that two or more individuals could all share the same origin (such that origin does not satisfy The Exclusivity Requirement). The leading response to this problem is predecessor essentialism, proposed by Graeme Forbes. In §3, I present that view, and offer criticisms which reveal that predecessor essentialism is an untenable solution. I then present my own solution to the recycling problem in §4 as a preferable alternative: Causal-historical essentialism. This thesis potentially avoids the recycling problem by proposing that certain features of the causal history of each individual's origin are essential to their identity.

1 Two Central Features of "Kripke-Style" Arguments

Kripke-style arguments for the essentiality of origin identify two basic principles regarding any potential sufficient condition for a particular identity:

The Loneliness Requirement If S_1 is a sufficient condition for the identity of some particular individual, R, then there cannot exist, in addition to S_1, any other sufficient condition, S_2, for identity R, which can be disjointly satisfied within the same world as S_1.

The Exclusivity Requirement If S is a sufficient condition for the identity of some particular individual, R, then, by definition, it is impossible for more than one individual to satisfy S within a world.

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[222] There are two other routes to the necessity of origin besides the "sufficiency condition" route which I will explore here: There is also the "branching-times" view [Mackie (1974)] and "the new route" [Rohrbaugh and deRosset (2004)]. I will not be concerned with either of these, but will focus solely on the view which grounds the necessity of origin in the sufficiency of origin.

The Loneliness Requirement: If there *were* multiple compossible, disjointly satisfiable[223] sufficient conditions for any particular identity, then a violation of the transitivity of identity would be derivable. For, if there are two or more distinct sufficient conditions for a particular identity, then there are possible scenarios containing two or more *competitors*, each fulfilling one of those two conditions and therefore competing for the same identity. For instance, consider the "possibility" that *both* of the following are sufficient conditions for a particular identity: Having a certain timeline (S_t) *and* having a certain origin (S_o). If that were the case, then, for any individual whose life unfolds in a certain way—e.g., in the way that Queen Elizabeth II's life actually does—that individual *is* Queen Elizabeth II (because she fulfills S_t). Additionally, for any individual who has a particular origin—e.g., the origin that the actual Queen Elizabeth II has—that individual *is* Queen Elizabeth II (because she fulfills S_o). Supposing that each of these conditions is sufficient, when met, to make the satisfier identical to the Queen, the following sort of scenario is then problematic:

> **Two Queens** Unbeknownst to everyone involved, a zygote (fertilized egg) conceived by Harry and Bess Truman is taken from Bess' womb and placed into the womb of Elizabeth Bowes-Lyon (Queen Elizabeth II's actual mother); and meanwhile a zygote conceived from the same sperm-egg combination as that of the actual Queen (i.e., by King George VI and his wife, Elizabeth Bowes-Lyon), is taken from Elizabeth's womb and placed into the womb of Bess Truman. Bess Truman gives birth to a baby girl who is then dropped on her head as an infant. Mrs. Truman's birth-daughter then spends the rest of her life severely handicapped. Meanwhile, Elizabeth Bowes-Lyon gives birth to a baby girl who grows up to be the Queen of England, is called "Queen Elizabeth II" and looks exactly like the actual Queen Elizabeth II.

In the Two Queens scenario, we have a clear case where one individual shares complete overlap of timeline with the actual Queen but difference of origin (i.e., she fulfills S_t but not S_o), while the other individual shares sameness of origin with the actual Queen but complete difference of timeline (i.e., she fulfills S_o but not S_t). Thus, *each* of the daughters in the Two Queens case has exactly one claim on the identity of the actual Queen. Now ask: Which of these two daughters is identical to—

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[223] Compossible: Satisfied within the same possible world; Disjointly satisfiable: Satisfied by numerically distinct individuals.

the very same woman as—the actual Queen Elizabeth II? Clearly, they can't *both* be identical to the actual Queen, for then (by transitivity of identity)[224] they would be identical to each other (which is false). So, at least one of the two sufficient conditions for identity proposed above is false. Furthermore, this demonstration is generalizable: The puzzle just described will arise for *any* view which proposes two or more compossible, disjointly satisfiable sufficient conditions for a particular identity. Thus, any sufficient condition for identity must be lonely.

The Exclusivity Requirement: If there *were* a sufficient condition, S, for which it were possible that more than one individual satisfy it within a world, then (again) a violation of the transitivity of identity would be derivable. "Having DNA sequence X" is such a condition, and for this reason it *fails* to meet The Exclusivity Requirement. Immediately, we recognize that it would be a terrible idea to propose this property as a sufficient condition for some particular identity, because there are possible scenarios where two or more individuals satisfy it (i.e., by having the same DNA), and therefore compete for a single identity. Indeed, the *actual* world is such a scenario (for instance, in the case of identical twins). If "having DNA sequence X" *were* a sufficient condition for a particular identity, then identical twins would be numerically one and the same individual—a result that is clearly false. This conclusion, too, is generalizable: The puzzle just described will arise for *any* view which proposes a sufficient condition for a particular identity that is fulfillable by more than one individual within a world. Thus, any sufficient condition for identity must be exclusive.

2 The Recycling Problem

Since any particular sufficient condition for a particular identity must be lonely, the only way for that condition to be a *contingent* one is for there to exist multiple, *non-compossible* sufficient conditions for the particular identity—that is, multiple sufficient conditions for which it is *metaphysically impossible*

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[224] And, strictly speaking, also by the *symmetry* of identity, as well as the assumption that a single individual cannot be in two places at once.

for more than one of them to be fulfilled within a world. For instance, if S_1 is a sufficient condition for identity R, the requirements stated above do not rule out the possibility of a distinct sufficient condition for identity R, S_2, so long as S_1 and S_2 are non-compossible (i.e., it is metaphysically impossible for S_1 and S_2 to be fulfilled in the same world). But, defenders of Kripke-style arguments dismiss this proposal for multiple, contingent, non-compossible sufficient conditions as counter-intuitive and *ad hoc*. Therefore, it is generally proposed that any sufficient condition for a particular identity must also be a *necessary* condition.[225]

Proponents of Kripke-style arguments then typically go on to suggest that *origin* is the *only* proposed sufficient condition for identity which successfully meets the criteria of loneliness and exclusivity—or, at least, the only *non-trivial, non-counter-intuitive* one. ("Being identical to Socrates" is an example of the former. Meanwhile, possessing some sort of qualitatively undetectable haecceity, e.g., "Socrateity", is an example of the latter).[226] The recycling problem, introduced by McKay and elaborated upon by Robertson, undermines these claims about origin.[227] Consider the following case:

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[225] Or, at least, any *minimal* sufficient condition is. For, there is still the possibility that some sufficient conditions for identity are "non-disjointly satisfiable". For instance, if "having origin X" is sufficient for being Queen Elizabeth II, then presumably so is "having origin X and having a blue hat". Though the latter is a sufficient condition for being the Queen, surely it is not also a *necessary* condition. But, this is only because "having origin X" and "having origin X and having a blue hat" are not disjointly satisfiable. For, if the latter condition is satisfied, then (necessarily) so is the former. Furthermore, the latter is a *conjunctive* property. I suggest that, in cases such as this, we identify the "minimal" sufficient condition—and this will just be whichever conjunct is *by itself* sufficient for a particular identity. (For instance, "having origin X" is sufficient for being the Queen, but "having a blue hat" is not. So, the latter conjunct is the one to be weeded out). In short, we should amend the claim just made to say that "any *minimal* sufficient condition for a particular identity must also be a necessary condition."

[226] The motivation for the rejection of haecceities is as follows (adapted from an example by Graeme Forbes): We can imagine a tower that is *very* different than the Eiffel Tower (different materials, a different location, different artisans, and so forth) and judge quite easily that it is not the Eiffel Tower. But imagine now a tower which is *exactly* like the Eiffel Tower in absolutely *every* respect (the same materials, same location, same artisans, and so on). It seems obvious that "a tower which differs in no respect, whether intrinsic or relational, from the actual tower, *is* the actual tower." [Forbes (1994), 416]. Yet, a defender of bare identities rejects this conclusion, embracing instead the position that a tower which differs in no respect whatsoever from the actual Eiffel Tower could nevertheless *not be the Eiffel Tower*. In short, the defender of bare identities suggests that it is metaphysically possible that the world goes *exactly* as it has, qualitatively, in every respect—i.e., *absolutely qualitatively indistinguishable from the actual world*—and yet contain none of the same individuals as the actual world (an incredibly counter-intuitive result).

[227] McKay (1986); Robertson (1998).

Recycled Zygote Consider two possible worlds:

w* – In the actual world, Harry originates from a zygote (X) of a particular material (M), and a particular configuration (C).

w_2 – In world w_2, Mark originates from a zygote (Y), of the exact same material (M) and configuration (C) as zygote X in w*. But, as Mark grows, he loses the original atoms that constituted zygote Y and gains new ones. While Mark is still a child, these lost atoms are collected and then reconstituted (i.e., recycled) into another zygote (Z) with the exact same material and configuration as zygote Y. John then develops from zygote Z. Later in life, Mark and John run against each other in a presidential election.[228]

The Problem: Suppose that the thesis that origin is a necessary and sufficient condition for identity gets analyzed as something like, "Individual x is identical to individual y iff both x and y originate from a particular material, arranged in a certain configuration." On that analysis, if origin—i.e., original material constitution and configuration—is a sufficient condition for identity, then, since both Mark and John develop from the same material (M) and configuration (C), it turns out that Mark is numerically identical to John in the case above (which is clearly false).

The recycling problem causes trouble for trans-world identification as well. For, in the case above, it seems that Harry (who originates from X in the actual world) *could have* originated from zygote Y; likewise, he *could have* originated from zygote Z. But, in that case, Harry *could have* been Mark. Similarly, he *could have* been John. But, then, once again we get the result that Mark and John are numerically identical, since they are both trans-world identical to Harry—and this is clearly false. In short, origin fails to satisfy The Exclusivity Requirement, contrary to what the proponent of the Kripke-style argument claims. But, then, origin, so conceived, cannot be a sufficient condition for identity.

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[228] In examples such as these, I will use names to refer to individuals (e.g., "Harry", "Mark", and "John"), but the use of different names is not to be taken as an assumption that these are distinct individuals. The use of names will only be in order to help keep them straight; it may turn out that some of the individuals with different names are in fact numerically identical.

3 Predecessor Essentialism: An Unsatisfactory Solution

3.1 Predecessor Essentialism Stated

How might the recycling problem be avoided? One could, of course, abandon identity theory in favor of some other account; e.g., counterpart theory. But, as Hawthorne and Gendler note, such a move is radical, and "reshapes the territory."[229] Indeed, such a move seems to give up the game altogether. Another option would be to make the *exact* space-time location of each origin an essential property of that origin, but this too would have counter-intuitive results.[230] For instance, it would then turn out that, if the actual sperm from which my zygote was produced had reached the egg even one second later, I would not have existed.

Graeme Forbes offers a more plausible solution. He suggests that, while original material constitution (M) and configuration (C) are *necessary* conditions for identity, they are not jointly *sufficient*. He then supplements these two aspects of origin with a third, claiming that it is actually the following *three* criteria which are necessary and jointly sufficient for identity:[231]

> **Three essential properties of individuals**
> (1) Original material constitution (M)
> (2) Original design/configuration (C)
> (3) Order of occurrence of (M + C); e.g., in a recycling sequence

The recycling problem, he argues, overlooks the third of these. The justification for the first aspect of origin (material constitution) is as follows: If original material composition is not an essential feature of identity, then competitors for any particular identity will be too easily derivable. For instance, imagine that "originating from a zygote with a certain design or configuration" is a necessary and sufficient condition for some particular identity. In that case, we would not even

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[229] Hawthorne and Gendler (2000), 287.

[230] This solution is mentioned (as an untenable one) in Mackie 2006: 59.

[231] Forbes (1994), 422.

require *recycling* in order to arrive at the same difficulty that the recycling problem poses; for instance, in a case where two zygotes of the same design come into existence.

Here is a motivation for the second aspect (design/configuration): Consider a scenario where a particular table (named Table) is made from a particular piece of oak wood (named Oak). If "sameness of origin" merely means "sameness of original material constitution," then a difficulty arises in the scenario where a particular chair (named Chair) is made from Oak instead of Table. Chair and Table share the same material origin (namely, the piece of oak named Oak). But, surely we do not want to say that Chair and Table are the same object. Imagine, even, that a table *is* made from Oak, but one that is a radically different sort of table than Table. Seemingly, this would not be Table either. Therefore, both the original material constitution *and* the design or configuration of a thing at the time of its origin are essential features of individuals.[232]

Now, consider the *third* aspect of origin: Forbes argues that the order in which the origination of a particular material and configuration occurs (e.g., in a recycling sequence) is *also* an essential feature of individuals—one which the recycling problem overlooks. Forbes calls this thesis *predecessor essentialism*, or *the essentiality of order*.[233] The justification for this proposal is as follows: Above, where Y is the original zygote and Z is the recycled zygote, we intuitively want to rule out the possibility that the person who arises from zygote Z is Mark (who originates from zygote Y). But, the thing which seems to distinguish these two zygotes is that Y is the *first* zygote in a recycling sequence (of a particular material and configuration), and Z is the *second*. Therefore, these ordering properties must be *essential* features of each individual.

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[232] Kripke shares this intuition [(1980), 114-5], and writes, "if the very block of wood from which the table was made had instead been made into a vase, the table would never have existed. So (roughly) *being a table* seems to be an essential property of the table." See also: Robertson (1998), 734; Salmon (1981), 206, 211.

[233] He writes [(1994), 423], "it is an essential property of the nth organism (of a fixed kind) to which σ gives rise at any world w that it is the nth. … [T]his proposal … I call the *essentiality of order* …" Here, "σ" refers to the propagule(s).

Predecessor essentialism blocks the recycling problem, firstly, by restoring origin's fulfillment of The Exclusivity Requirement. In the Recycled Zygote case above, zygote Y has the property of being the *first* zygote with a particular material constitution and configuration (I will call this, as Forbes does, the first "M-C zygote").[234] Meanwhile, though zygote Z has both the same material constitution and design as zygote Y—i.e., it too is an "M-C zygote"—it has the property of being the *second* such zygote. If *order* properties (in a recycling sequence) are essential to the identity of each zygote, it becomes clear that Y and Z are distinct individuals, since they differ with respect to the order in which they occur. Thus, with this repair, Mark and John are no longer competitors for the same identity (which would be a violation of The Exclusivity Requirement).

Furthermore, since these order properties are said to be *essential* properties of each zygote, it is *not* the case that Harry (who develops from zygote X in the actual world) could have come from either Y *or* Z in w_2. Rather, since Harry has the property of having come from the *first* M-C zygote in the actual world, he has that property *essentially*; that is, he has it in every world in which he exists. Therefore, he could not have come from zygote Z, because Z is the *second* M-C zygote to occur in w_2. It turns out that Harry and Mark are trans-world identical, while Harry and John are not. Therefore, predecessor essentialism avoids the troubles raised by the recycling problem.

3.2 Two Objections To Predecessor Essentialism

Predecessor essentialism faces two difficulties. The first is that *order in a recycling sequence* seems to be an extrinsic, relational property of objects (an unfortunate feature, since identity theorists typically want to restrict essential properties to *intrinsic* properties). The second is that, since order (of M-C origin) is proposed to be a *necessary* feature of each individual, then "an entity's predecessors in a

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[234] He introduces this term in [(2002), §5]. "M" is taken to refer to a particular collection of matter, while "C" is taken to refer to a particular configuration or design.

recycling sequence are its predecessors in every world where it exists."[235] Yet, we may construct examples where this seems false.

Consider the first worry, that the position which, e.g., a zygote has in a recycling sequence is not an *intrinsic* property of that zygote. As Hawthorne and Gendler note, "It is somewhat perplexing how order-related properties for an entity … could be intrinsic to the entity."[236] It seems that what the predecessor essentialist is doing is casting the identity of zygotes in terms of their *relation* to *other* (possible or actual) zygotes—and this makes their identities extrinsically determined. Initially, Forbes denies this accusation, writing:

> I can find no intuition that the identity of an organism whose body is initially constituted by a certain cell must be insensitive to the question of whether that cell is 'new' or 'used'. From this I infer that … 'originates from an unused propagule' does not count as an extrinsic property.[237]

If a property is relational, he argues, this does not automatically make it extrinsic. For instance, "being a member of the singleton set {Socrates}" is a relational, but intrinsic property of Socrates. Even origin itself (i.e., the property, "originating from propagule X") is relational, but may nevertheless be intrinsic in this broader sense. The accusation against Forbes here is more than a mere matter of ordinal properties being relational ones, however. The problem is that, if individuals possess the property of having a certain order in a recycling sequence essentially, then this makes identity contingent upon the existence or non-existence of other causally unrelated individuals.[238] For instance, on predecessor essentialism, the identity of the actual man whom we call "Hubert

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[235] Forbes (2002), 328.

[236] Hawthorne and Gendler (2000), 292.

[237] Forbes (1994), 425-6.

[238] I am, of course, assuming that the mere fact that the material which constitutes the origin of the *second* individual in a recycling sequence once constituted the origin of the *first* individual in the sequence does not qualify as being the second individual's being "causally related" to the first. This assumption becomes more apparent in light of cases such as "Future Recycled Zygote", below. For instance, if two individuals in a recycling sequence occur a thousand years apart, there seems to be no meaningful sense in which the first individual can be said to have (even *remotely*) "caused" the second.

Humphrey" would *differ* depending on whether or not some other zygote, materially identical to his actual zygote, had ever existed in the past—surely an undesirable feature of the view.

In a later paper, Forbes tentatively gives up the claim that origin is an intrinsic property, arguing instead that it is at least an "identity-relevant" one. His revised goal is merely to discover instead whether or not "there is any combination of properties *at all* that uniquely determines the identity of a satisfier without logically entailing it."[239] First, note that this revised position does not avoid the accusation just raised—i.e., that on predecessor essentialism, identities are contingent upon the existence or non-existence of other, seemingly causally unrelated individuals. Second (setting this worry aside), even if we proceed with this much weaker goal in mind, the fact remains that we may construct examples where the conclusions yielded by predecessor essentialism seem false. Consider the following case:[240]

> **Future Recycled Zygote** Consider two possible worlds:
> w_3 – w_3 contains two M-C zygotes: First, Hubert originates from an M-C zygote, X, in 1910 AD. One thousand years later, in 2910 AD, the atoms which once constituted zygote X are collected by scientists who then—having no knowledge of who Hubert was—coincidentally reconstitute those same atoms into another M-C zygote; call it Y.[241] Humphrey then develops from zygote Y.
> w_4 – w_4 contains only one M-C zygote: In the year 2910 AD, scientists collect some atoms and synthesize them into a zygote, Z, which is materially and configurationally identical to both zygotes X and Y in w_3 (i.e., it too is an M-C zygote). A human being then develops from zygote Z, and the scientists name him "Richard Nixon".

First, consider only w_3: Note that, on predecessor essentialism, since the order of Humphrey's zygote in a recycling sequence is an essential property of his, it is essential to Humphrey that he is the *second* individual originating from an M-C zygote. This gives the result that Humphrey *could not have existed in the absence of Hubert*. This is counter-intuitive. Next, consider w_4: Predecessor

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[239] Forbes (2002), 321.

[240] The following example is inspired by that found in Hawthorne and Gendler (2000), 293. Similar cases may be found in: Forbes (2002), 333; Mackie (2002), 347.

[241] Recall that, since X and Y are both M-C zygotes, this means that they contain all and only the same material parts (M), arranged in exactly the same configuration (C).

essentialism yields the further counter-intuitive conclusion that, in that world, the man whom the scientists name 'Richard Nixon' *is numerically identical to Hubert, not Humphrey* (since being the *first* individual originating from an M-C zygote is a necessary and sufficient condition for being Hubert).

Forbes admits that this sort of case is worrisome. In his most recent work on the subject, he amends his view by adding that the approximate *space-time location* at which an individual originates is essential to identity.[242] However, this gives us the result that order is no longer a necessary condition for identity (though it will still be a necessary condition if an individual's predecessor occurs "close enough in time"). Consider the implications of this revision: In world w_4 where no M-C zygote occurs in 1910 AD, the man who develops from zygote Z—though he is the *first* organism to develop from an M-C zygote in that world—he is *not* identical to Hubert (from w_3). This is because, though both zygotes X and Z are the *first* M-C zygotes in their respective worlds, zygote Z in w_4 does not occur close enough in time to the time of zygote X's origin in w_3 to count as being trans-world identical (for, their origins are separated by 1,000 years). With this revision, we can claim that the intuitive conclusion is correct: It is Humphrey in w_3 and Richard Nixon in w_4 who are trans-world identical—even though Richard Nixon originates from the *first* M-C zygote in w_4 and Humphrey originates from the *second* M-C zygote in w_3.

By his own admission, Forbes's requirement that two individuals' origins in two possible worlds be "close enough in time" to count as being trans-world identical is vague. Unfortunately, this is a feature that leaves his response open to additional worries. Consider the following case, adapted from Penelope Mackie:[243]

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[242] Forbes (2002), 334.

[243] P. Mackie (2002), 348.

The Three Worlds Paradox Consider three possible worlds:

    w^* – In 1925 AD, in the actual world, Elizabeth II is the only organism to originate from an M-C zygote.

    w_5 – In 1920 AD, organism A originates from an M-C zygote. In 1930 AD, a second organism, B, originates from a recycled M-C zygote.

    w_6 – In 930 AD, organism C originates from an M-C zygote. In 1930 AD, a second organism, D, originates from a recycled M-C zygote.

Note that on the *original* conception of predecessor essentialism, Elizabeth II would be identical to organisms A and C, since all three of these individuals are the *first* organisms to originate from an M-C zygote in their respective worlds. On the *repaired* view, however, Elizabeth II would instead be identical to organisms A and *D*, since all three of these individuals originate from M-C zygotes at or around 1910 AD, and none of them have any *recent* predecessors (i.e., predecessors that occur "close enough in time"). So, the repaired view yields the result that A=D. Intuitively, however, organisms *B* and D are identical (rather than A and D), since both zygotes B and D have the same material, the same configuration, and are brought into existence at *exactly the same time* in their respective worlds.

By the predecessor essentialist's own admission, the only thing which explains B's non-identity with D on this repaired view is the fact that B's predecessor occurred relatively close in time to itself, while D's predecessor did not (since B's predecessor, A, occurs only 10 years prior to B, while D's predecessor, C, occurs 1,000 years prior to D). But, this fact seems completely irrelevant to identity (and furthermore, it reminds us of the accusation, raised above, that identity is extrinsically determined on this view in an incredibly counter-intuitive way). Therefore, it seems clear that predecessor essentialism, though it solves the recycling problem, is ultimately an unsatisfactory position.

4 Causal-Historical Essentialism: An Alternative Solution

4.1 Causal-Historical Essentialism Stated

Predecessor essentialism offers a solution to the recycling problem that is bought only at

the expense of sacrificing intuition and plausibility. But, as Teresa Robertson notes:

> If the best defense against [the recycling problem] is to adopt a brand of essentialism that has less support from intuition than origin essentialism itself already enjoyed, then the argument for origin essentialism seems to offer little more support for the claim than the intuition did in the first place.[244]

I will now offer a solution to the recycling problem which I believe to have significant

advantages over predecessor essentialism. Call this solution *causal-historical essentialism*; roughly, the

view that, in addition to the original material and configuration, certain features of the causal history

of an individual's origin are essential to identity. Define causal-historical essentialism as follows:

> **Causal-Historical Essentialism** Individual x is identical to individual y if and only if both x and y originate from a particular material, arranged in a certain configuration, via the same causal process.

Obviously, more will need to be said concerning how to individuate causal processes (e.g., how to

determine whether or not process A in world w_1 is "the same causal process" as process B in world

w_2). But, let us leave the notion vague for now, and examine the work that such a view can do with

regard to the recycling problem.

4.2 Causal-Historical Essentialism vs. Predecessor Essentialism

The Recycling Problem: Causal-historical essentialism avoids the recycling problem. Recall that, in

the original Recycled Zygote case, in w_2, Mark originates from zygote Y, which is later recycled to

create a materially and configurationally identical zygote, Z—from which John arises. On causal-

historical essentialism, Mark and John do not compete for the same identity, since the two zygotes

have radically different, unique causal histories. Thus, The Exclusivity Requirement is not violated.

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[244] Robertson (2008), §2.

Furthermore, since the causal history of each individual's origin is *essential* to their identity, Harry (who develops from zygote X in w*) could not have come from Z in w_2. This is because zygotes X and Z are the product of radically different origin events. It turns out that Harry and Mark are trans-world identical (assuming they are derived via the same causal process), while Harry and John are not.

Causal-historical essentialism yields the desired result in the *Future* Recycled Zygote case as well (i.e., the case where a recycled zygote occurs one thousand years after the original). In that scenario, we obtain the intuitively correct result that Humphrey's identity does not depend upon the prior existence of Hubert, even though he is the *second* individual to arise from a zygote of a certain material and configuration in w_3. What is essential to Humphrey's identity in the year 2910 AD is not the existence of some distant predecessor, but rather some facts about the causal history of the zygote from which he originates—i.e., some facts about which *origin event* he develops from. Since the identity of his zygote depends upon its causal history rather than the existence of predecessors, the existence or non-existence of Humphrey in the year 1910 AD is entirely irrelevant to Nixon's identity.[245]

Two Objections to Predecessor Essentialism: Two undesirable consequences of predecessor essentialism were detailed in §3.2, above. Causal-historical essentialism avoids both of these. First, regarding whether or not causal-historical properties are *intrinsic* to individuals: The claim I have made is that "originating via a particular causal process" is an essential property of individuals. Though such a property *is* a relational one (and perhaps even extrinsic), this sort of property is far more palatable than the sort appealed to by predecessor essentialism. Consider: On causal-historical essentialism, the external features relevant to, e.g., my zygote's identity are—in all possible cases—

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[245] Again, this is assuming that the causal process by which an origin is brought about need not involve the entire history of the matter which composes that origin. Surely, for instance, my existence is not contingent upon the fact of whether or not the atoms which composed my original zygote were once part of a dinosaur existing millions of years ago (see also note 238).

those which are *immediately causally related to my zygote's existence*. Meanwhile, on predecessor essentialism, the external entities that are relevant to one's identity can sometimes be those that are *causally remote and seemingly irrelevant* (as demonstrated in the in Future Recycled Zygote case in §3.2, above).[246] This is a clear advantage of my own view.

Second, regarding the Three Worlds Paradox case, recall that individuals B and D both originate from M-C zygotes in 1930 AD, in worlds w_5 and w_6, respectively. Predecessor essentialism yielded the counter-intuitive result that individuals A and D—rather than B and D—were identical. Meanwhile, causal-historical essentialism yields the intuitively correct result that individuals B and D are identical (assuming, of course, that they both originate via the same causal process, or the same "origin event"). Thus, causal-historical essentialism fares better than predecessor essentialism here too.

A Final Worry: The present view successfully solves another puzzle as well. Hawthorne and Gendler list four principles which the necessity of origin theorist should embrace, and demonstrate that these are incompatible. They are:

> **Four Incompatible Theses**[247]
> (1) For any possible M-C zygote, X, there is a possible world containing *two* M-C zygotes, X and Y.
> (2) Identity is transitive.
> (3) For any possible M-C zygote, Y, there is a possible world where Y is the *only* M-C zygote.
> (4) For any possible M-C zygote, Z, if there is a possible world where Z is the *only* M-C zygote, then, necessarily, in *every* possible world where there is *only one* M-C zygote, that zygote is Z.

The incompatibility of these principles is demonstrated as follows: According to (1), there is a possible world containing two M-C zygotes, X and Y. Then, by (3), there is a possible world where

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[246] Once again, assuming of course that the mere fact that Humphrey's original atoms in 2910AD in the "Future Recycled Zygote" case were once possessed by Hubert in 1910AD does not in any meaningful sense make Hubert's existence causally relevant to Humphrey's origin.

[247] Hawthorne and Gendler (2000), §7. These principles are adapted from their principles (a), (b), (18) and (c), respectively.

X is the *only* M-C zygote. Likewise, there is a possible world where Y is the only M-C zygote. But then, by (4) and (2), X is identical to Y (which is false). Therefore, if the necessity and sufficiency of origin is to be salvaged, at least one of these principles must be given up.

Principle (1) seems obvious enough; endorsing (1) is just to accept that, e.g., any zygote can be recycled. Likewise (2) should be preserved; as noted above, to give up (2) would be to give up the game entirely, since the whole problem with recycling cases seems to be that they yield a violation of this principle. So, it seems that either (3) or (4) must be rejected. Now, the predecessor essentialist opts for the rejection of (3). On the original presentation of that view, (3) is clearly false since Y may refer to an M-C zygote which is the *second* M-C zygote in a world (e.g., in a recycling sequence).[248] Let us say that this is the case (i.e., that Y refers to the *second* M-C zygote in a world), and that the predecessor of Y is some slightly earlier M-C zygote, X. In that case, there is *not* a possible world where Y is the *only* M-C zygote. For, necessarily, every world where Y exists is one where X exists. Note that this will be true even on the *revised* version of predecessor essentialism (which incorporates the approximate space-time location of the origin)—at least for *some* zygotes. For, on that revised view, if a zygote (Y) is the *second* M-C zygote in a recycling sequence, *and if its predecessor (X) occurred relatively recently before Y*, then it is impossible for Y to exist without X. So, (3) is false for the predecessor essentialist.

Causal-historical essentialism avoids the inconsistency raised by Hawthorne and Gendler as well, but takes a different approach than predecessor essentialism, accepting (3) and rejecting (4) instead.[249] On causal-historical essentialism, it is *not* the case that, if there is a possible world containing *only one* M-C zygote, Z, then necessarily, in *every* possible world where there is only one M-

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[248] While it is true that, on Forbes's revised view, not *all* recycled zygotes will have their predecessors essentially (consider, for example, individual D in w_6 in The Three Worlds Paradox case, whose predecessor occurs 1000 years earlier), it *is* the case that all recycled zygotes whose predecessors occur *close enough in time* have their predecessors essentially.

[249] Note that causal-historical essentialism endorses (3), but only on the assumption that the previous existence of a predecessor is *not* an essential feature of the causal process by which an origin is brought about.

C zygote, that zygote is Z. For, the causal histories of those zygotes may be radically different—different enough to ensure that they are not the same individual. Consider, for example:

> **Two Margaret Trumans** Consider two possible worlds:
> w_7 – The only M-C zygote in w_7 occurs on Earth in 1923 AD, via the fusion of a sperm and egg biologically produced by Harry and Bess Truman.
> w_8 – The only M-C zygote in w_8 occurs in 3 billion BC, via the gathering of inorganic atoms (by random chance) on the surface of a planet in the Andromeda Galaxy, into a womb-like object (also the product of chance).

On causal-historical essentialism, these two zygotes are clearly *not* trans-world identical, since they develop from two completely different origin events. So, principle (4) is false. Note that the *revised* version of predecessor essentialism would *also* yield this verdict on principle (4), but for a slightly different reason. Revised predecessor essentialism would yield the conclusion that these two zygotes are not identical *merely* because they do not occur "close enough in time". Causal-historical essentialism, on the other hand, renders them non-identical because the causal processes from which they are derived are not the same. In any case, though it is true that both views avoid the inconsistency raised by Hawthorne and Gendler, *revised* predecessor essentialism ultimately does so by rejecting principles (3) *and* (4), while causal-historical essentialism rejects only (4). Therefore, by parsimony, causal-historical essentialism fares better here as well.[250]

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[250] There are two potential worries that may have occurred to the reader during this section:
(1) Same-zygote twinning cases: Since mono-zygotic twins both originate from the same M-C zygote, they may seem at first glance to have the same origin. If this were the case, twins would be—on the necessity and sufficiency of origin view—numerically identical to each other (which is false). However, we can avoid this result (which is a violation of The Exclusivity Requirement), by pointing out that each twin's immediate origin is not a *single particular zygote*, X, but rather one of *two distinct daughter cells*, Y and Z (Note that Forbes handles twinning in this same way (2002), n. 11]).
(2) Different-matter cases: Could my zygote have been originally constituted of slightly different material parts? If so, then a problem of vagueness for trans-world identity may arise, known as "The Tolerance Problem". (See: Mackie (2006), §3.5) The tolerance problem lies outside of the scope of this paper, but I will give two brief responses: (a) Perhaps the material constitutions of biological organisms are actually *in*tolerant (Forbes suggests this in (1985), 189). (b) This is merely a problem of vagueness, which is not unique to the present origin thesis. As Forbes notes [(2012), personal correspondence], "The tolerance problem is just a sorites problem with modal operators — it requires a solution to the problem of vagueness, which must presumably exist."

4.3 An Objection To Causal-Historical Essentialism

On causal-historical essentialism, certain possible cases may be seen as problematic. Consider, for instance, the following case:

> **Atom-Snatchers** Consider two possible worlds:
> w* – In the actual world, w*, Hubert Humphrey originates from a particular M-C zygote, X, via biological conception in 1910 AD.
> w₉ – In w₉, a group of scientists remove certain atoms from the environment just before Humphrey's actual parents consume them—the exact same atoms, in fact, which found their way into the zygote that Humphrey was derived from in w*.[251] In 1910 AD, the scientists construct an M-C zygote, Y, from these atoms. A man going by the name of 'Richard Nixon' then develops from zygote Y.

Is the man who originates from these atom-snatchers *Humphrey*? That is, in the Atom-Snatchers case, are Hubert Humphrey and Richard Nixon one and the same individual? On the present proposal, apparently not, since the two zygotes in this scenario originate via radically different causal processes. I do not find this result to be counter-intuitive. Other philosophers *do*, however. Graeme Forbes, for instance, describes a similar case and dismisses the idea that the possible (scientifically synthesized) zygote is not identical to the actual (biologically conceived) one as a "strained" notion.[252] Clearly, he concludes, X and Y are the same zygote. If that is true then, contrary to my hypothesis, the causal history of an individual's origin is irrelevant to identity.

But, is this verdict correct? Certainly, the notion that an identity can be contingent upon the causal history of a thing's origin is not a strange one when considered *in certain contexts*. Philosophers of religion, for instance, conclude that God, though omnipotent, could not make a U.S. dollar bill, or have painted the Mona Lisa. Sure, God could create a bill or a painting that is *qualitatively* identical to each of those, but these would only be counterfeits. This is because *part of what it is to be* the Mona Lisa is to be a painting by Leonardo da Vinci; and *part of what it is to be* a dollar bill is to be a bill

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[251] Never mind the fact that a woman is born with all her eggs. Pretend that she is not; or that the scientists remove these atoms from the environment before Humphrey's (maternal) *grandmother* consumes them.

[252] Forbes (1986), 7. See also, Price [(1982), 35], who writes, 'it is plainly possible for the sources of, for instance, Queen Elizabeth's zygote not to have been the sperm and egg whose fusion in fact created it.' She then describes a case similar to my Atom-Snatchers case, claiming that the synthesized zygote is clearly identical to the biologically produced one.

produced by the U.S. mint. Saul Kripke once claimed that, if we discovered the fossils of horses with horns, these would not be unicorns;[253] and Michael Dummett has said that, "even if creatures exactly like men arose from Dragon's teeth, they would not be men …"[254] What is relevant to identity in all of these cases (the dollar bill, the Mona Lisa, the unicorn and the dragon-teeth children) is *how these things were brought about*. In short, the idea that an origin's causal history is an essential feature of identity is (at least in some cases) intuitively true.

4.4 Individuating Origin Events

Since biological origins are events, there remains the following difficulty: How much can an origin event vary before it no longer counts as the *same event*? The answer to this question will, of course, depend upon how we individuate processes, or events. While a complete investigation of how to individuate events lies outside of the scope of this paper, I will suggest a few potential essential properties of individual biological processes, adapted from Jaegwon Kim's account of event individuation:

> **Three Plausible Essential Properties of Biological Origin Events:**[255]
> (1) The identity of the causer(s); e.g., "being caused by Harry and Bess Truman".
> (2) The type of causal process; e.g., "being produced via biological fusion".
> (3) The approximate space-time location.

Proposal (1): Consider the event of "Sebastian's taking a leisurely stroll at midnight." Of this event, Kim writes, "If Mario had been chosen to stroll that night [rather than Sebastian], then there would have been another stroll, namely Mario's."[256] This intuition supports the conclusion that the

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[253] Kripke (1980), 156.

[254] Cited in: McGinn (1976), 135.

[255] Kim (1976). These correspond to Kim's account as follows: Kim proposes that events have three unique constituents. These are, roughly, (1) The individual(s) it involves, (2) The properties it instantiates, and (3) The time at which it occurs. Note that, in an earlier paper, Kim admits that we might have instead chosen the space-time region in which an event occurs, rather than the time only [(1971), 438]. The essential properties of the origin events for artefacts may be the same as those for biological events, but I do not wish to assume so here.

[256] Kim (1976), 48.

individuals involved in an event are essential to that event's identity. Now, if this is correct for *origin* events, then it will turn out that the precursors of each origin event (i.e., the individuals which are the causes of the origin) are essential to that event's identity. This will entail that, e.g., no human could have had different parents—a result which will offend the intuitions of some,[257] especially since it would not only entail that each person necessarily has the same *parents* as they do in the actual world, but also the same *grandparents*, and *great-grandparents*, etc. But, is this really so counter-intuitive? Perhaps it really *is* the case that "Blood relations run deep," as Colin McGinn suggests.[258] Or, as Alexander Pruss proposes:

> individual x is identical with individual y if and only if x and y are initially exactly alike and *the chain of all the causes leading up to x is exactly like the chain of all the causes leading up to y*, both in what the causes are like and how they acted.[259]

After all, Kripke himself originally framed this debate by asking, "could the Queen—could this woman herself—*have been born of different parents from the parents from whom she actually came*?"[260] To which he thought the obvious answer was, "No". So, the identity of the causer(s) seems to be relevant to identity.[261]

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[257] Teresa Robertson [(1998), 731], for instance, states the following principle as one which she thinks is obviously true: "A given zygote, z, that originates from a collection of precursors, y, could have originated from y', any distinct collection of precursors that could give rise to an atom-for-atom replica of z." She calls this principle "[P_b]". Hawthorne and Gendler [(2000), 286] reiterate this principle when they assume that "Some variation in the collection of precursors of an entity is possible." They call this principle "(2)".

[258] McGinn (1976), 134.

[259] Pruss (2011), 258 (emphasis mine). Note that all three of the suggested essential features of a process (the identity of the cause(s), type of causal process, and the approximate space-time location) are implied by Pruss here.

[260] Kripke (1980), 112 (emphasis mine). A page later, he then asks, "How could a person originating from different parents, from a totally different sperm and egg, be *this very woman*?"

[261] Note that we do not want to make the identities of *all* sorts of causers relevant to identity. For instance, while a qualitative duplicate of the Mona Lisa made by anyone other than Leonardo da Vinci is *not* the Mona Lisa, and a zygote qualitatively identical to my actual zygote produced by anyone other than my actual parents is *not* my zygote, there might be other cases where the identities of the causers seem less relevant: For instance, if a team of scientists artificially inseminates an egg, we do not want to say that the identity of the resulting zygote would differ depending on whether or not one of the scientists had stepped out for a restroom break during the act of fertilization. So, the idea of when and which causers are identity-relevant will need to be refined appropriately.

Proposal (2): Consider Sebastian's leisurely stroll again. Kim suggests, "it is highly dubious that Sebastian's leisurely stroll could have been a run or a crawl, and it certainly could not have been a coughing or dozing."[262] If this is correct for origin events as well, then, if an individual is the product of the biological fusion of a sperm and egg, it is necessarily so. That individual could not, for instance, have been the product of a biological *fission* (such as the process that amoebas undergo). Likewise, they could not have been the product of artificial *synthesis* (such as that produced by the scientists in the Atom-Snatchers case). Again, perhaps this will offend the intuitions of some, but I have already provided a motivation for the idea that the *way* in which something is brought about is essential to its identity.

Proposal (3): If, in some other possible world, Sebastian instead strolls twenty years later, it seems correct to conclude that it would not be the same stroll. So, the space-time location of an event seems relevant to its identity. But, this is unsurprising. As Kripke originally noted,

> Ordinarily when we ask intuitively whether something might have happened to a given object, *we ask whether the universe could have gone on as it actually did up to a certain time*, but diverge in its history from that point forward …[263]

Intuitively, however, the *exact* time at which the event occurs is *not* essential to its identity. Kim writes, "it seems correct to say that the stroll could have occurred a little earlier or later than it actually did."[264] So, it is only the *approximate* time of occurrence of an origin event which is essential to its identity.

4.5 The Susceptibility of Events to Recycling

The suggestions I have just provided will surely need to be supplemented and refined. When specifying what constitutes 'the same' causal process or event, we will need to take care

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[262] Kim (1976), 48.

[263] Kripke (1980), 114-5 (emphasis mine).

[264] Kim (1976), 48. Note that Kim also allows that Sebastian's strolling could vary somewhat and still instantiate the property of "being a leisurely stroll".

that our specification is exclusive enough that it avoids susceptibility to recycling cases, but not so exclusive that it makes all of the exact circumstances of each origin essential to it (a counter-intuitive result). If our account of event individuation is to avoid the problems raised by recycling cases, we seem to have three options: (1) Propose that, while individual *objects* are not individuated by haecceities, events *are* so individuated. (2) Propose that the identities of events are sensitive to the existence or non-existence of predecessors. (3) Hold out for an account of event individuation which is impervious to recycling cases. Now, strategy (1) will inherit all of the problems of haeceeitism for event individuation, which may then infect the identities of the zygotes themselves (see footnote 226, above). Strategy (2), meanwhile, will turn out to re-incorporate *order* as an essential feature of identity (namely, for *event*-identity), and will therefore inherit the problems of Forbes's view, detailed above. One would hope, then, that strategy (3) shows some promise.

5 Conclusion

The various Kripke-style arguments purport to demonstrate that, if there is any non-trivial property which grounds identity, then that property is origin. The recycling problem poses a considerable obstacle for this thesis, however—and the leading solution (predecessor essentialism) is riddled with difficulties. I have just proposed an alternative solution to the recycling problem: Causal-historical essentialism. Whereas the former proposes that *order* of origin (e.g., in a recycling sequence) is essential to identity, I have proposed instead that *causal history* of origin is essential. This account shows some promise of avoiding the problem introduced by recycling cases because, simply put, an origin event and its (recycled) successor are *not the same causal event*. Causal history is a far more plausible essential feature of origins than order in a recycling sequence; for, though my own solution *may* entail that I could not have had different parents, the competing solution entails that the identity of the organism authoring this paper would differ depending upon whether or not some

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qualitatively identical zygote had arisen in the past—a result which is far more difficult for intuition to endorse.

CHAPTER SIX

THE NECESSITY OF ORIGIN AND DE RE MODALITY

Introduction

In chapter 4, I argued that, if the modal truthmakers are dispositional ones, then the metaphysical possibilities take a branching structure with a necessary origin—or at least, all of the metaphysically possible scenarios share some initial causal portion in common with the actual world, and diverge from there. In chapter 5, I defended the thesis that individuals have their origins essentially. In the present chapter, I will argue that the necessity of origin thesis naturally lends itself to the branching conception of possibility. Thus, the necessity of origin is an independent support of that conclusion. I will argue for this as follows: In section 1, I will show that, if the essentiality of origin thesis is correct, then *de re* modalities take a branching structure with a necessary origin. In §2, I extend the necessity of origin thesis to all inanimate objects. I argue in §3 that metaphysical possibility itself is best interpreted as a form of *de re* modality—namely, as a modality for that object called *the actual world*. In §4, I suggest that, since metaphysical possibility in general takes a branching structure with a necessary origin, the best account of modal truthmaking is a dispositional one. In §5, I will respond to some objections.

1 The Necessity of Origin and Branching for De Re Modalities

The necessity of origin thesis results in a "branching conception" of possibility, at least for *de re* possibility. Consider Queen Elizabeth II: She necessarily originated from a particular sperm and a particular egg. If not for the exact sperm-egg combination that she actually originated from, the Queen—this very woman, the *actual* Queen Elizabeth II—would not have existed. Nevertheless, it

seems true that she could have been dropped on her head as a baby, or run off to live with some remote tribe in the Amazon jungle, never to be heard from again. She need not have ever become a Queen. But she *needs* to have originated in the particular sperm and egg combination that she actually did.

The above considerations bring out the fact that, in conjunction with the necessity of origin thesis, we typically also accept a "contingency of development" thesis (or what I earlier called the Assumption of Open Futures). That is, it is metaphysically possible that, once I am conceived, things could have gone otherwise than they in fact did. So, when we consider what is possible *for Elizabeth II—this very woman—*we hold the history of the world more or less fixed up until the moment of her conception, and we consider what could have happened from there. That being the case, the result is a *branching* view of *de re* possibility. The following diagram illustrates this point:

Figure 5: The Branching Conception of De Re Modality

——————— = Actual timeline of the actual Queen

·················· = Queen dropped on her head as a baby

— · — · — · — · — = Queen joins Amazon tribe before coronation

— — — — — — = Queen declares war on the United States while ruling
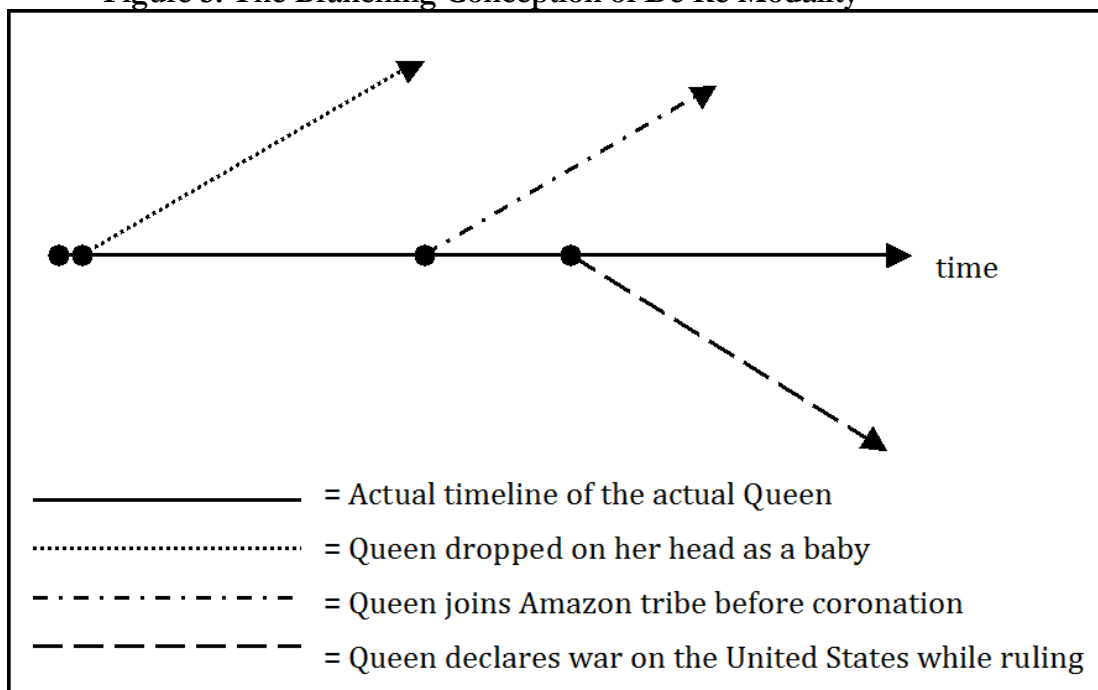
As Penelope Mackie notes "we can 'keep hold' of an actual individual in a possible situation only by anchoring it to its actual history."[265] In figure 5, we see illustrated a sampling of some of the possible ways things could have been for the Queen. Each "way things could have been" for the Queen is a timeline of her life, where each of these timelines include the actual Queen's actual origin as their starting point. Since the Queen's actual origin is an essential property of her, all metaphysical possibilities for Queen Elizabeth II—this very woman, the actual Queen—will include that origin. Hence, the *necessity* of origin: For the Queen, her origin is a sort of *necessary being* in her own *de re* modality. But, on this view, de re modalities have a branching structure with a necessary origin.

2 Necessity of Origin for Inanimate Objects

The necessity of origin thesis does not apply only to biological entities. It should be extended to inanimate objects as well. First, it applies to artefacts (if such things exist). As we saw in the previous chapter, if a particular table, named Table, is originally made from a particular hunk of oak wood, named Oak, then *originating as a table, of a particular design, from Oak* is a necessary and sufficient condition for being Table. But, it seems to me that the necessity of origin may be extended to inanimate objects that are not artefacts as well—particularly those which are instances of natural kinds. For instance, it is plausible to think that galaxies, stars, and planets have their origins essentially (though perhaps these are not natural kinds). Certainly *atoms* or *sub-atomic particles* are plausible candidates for inanimate objects that fall under natural kinds, and are not artefacts.

McGinn suggests, however, that if something is a non-evolutionary non-biological kind, origin is not an essential property of it.[266] For instance, a piece of gold is a member of the kind "gold" just as long as it has a certain kind of molecular structure; its origin is irrelevant. I believe McGinn is mistaken, however. The conclusion we ought to draw is merely that, in order to be *some* gold, facts

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[265] Mackie (2006), 108.

[266] McGinn (1976), 135.

about origin are irrelevant (rather, only facts about atomic structure are). Still, *this piece* of gold has a particular origin which it necessarily has in order to count as *this piece*. So, the necessity of origin applies to more than just organisms and artefacts. Atoms have a particular advantage over biological entities in that they are not subject to the objection raised by the recycling problem. Consider the following recycling case:

> **Recycled Atom** Hydrogen atoms are composed of one proton and one electron. I had a favorite Hydrogen atom, named "Inky", which was originally composed of a particular proton (A) and a particular electron (B); but electron B got lost and was replaced with another electron (C). Some time later, proton A was also lost and was replaced with another proton (D). I named the atom composed of (C + D) "Blinky". Eventually, though, proton A and electron B did find one another again, and they formed a Hydrogen atom once more—an atom qualitatively and materially identical, to the original Inky. I named this atom "Clyde".

Is the recycled Hydrogen atom Inky? That is, are Inky and Clyde numerically identical? It seems plausible to suggest that they *are* identical. Furthermore, it is plausible to suggest that Inky ceased to exist the moment electron B was replaced with electron C. In short, it seems plausible to suggest that: (a) Atoms *do not* survive part-replacement. (b) Atoms *do* survive being dismantled and reconstructed. But, then, atoms are not susceptible to recycling cases. For, unlike the second zygote in the "Recycled Zygote" case from chapter 5, the recycled Hydrogen atom, Clyde, in this "Recycled Atom" case *does* (plausibly) seem to be identical to the original, Inky. Furthermore, if some sort of mereological essentialism applies to atoms or sub-atomic particles—that is, if a Hydrogen atom ceases to be *that very atom* the moment we replace a single part—then, unlike the "Recycled Zygote" case, which gives rise to the possibility of *two individuals with the same origin existing simultaneously*, there is no possibility of two Hydrogen atoms originally composed of the same constituents existing simultaneously. The thesis that atoms and sub-atomic particles have their origins essentially is quite attractive then, and may even lend itself toward further refining the solution to the recycling problem offered in the previous chapter.

3 Metaphysical Possibility is De Re Possibility

3.1 Introduction

Here, I argue that the branching view of possibility applies not only to *de re* modalities (for individuals), but also to metaphysical possibility *in general*. In light of the thesis of the essentiality of origin, defended in the previous chapter, many interesting metaphysical necessities arise. For instance, necessarily, if I exist, then so do my parents; and grandparents, and great-grandparents, such that an entire lineage must necessarily exist if I do. By extrapolation, we may draw the conclusion that even entire *species* have their origins essentially; for, species are themselves biological entities, and must also therefore have their origins essentially. As pointed out in the previous chapter, if a species of hominids arose from dragon's teeth, qualitatively identical to human beings, they would nevertheless not be humans. Furthermore, if the necessity of origin applies to *atoms* as well (or to sub-atomic particles), then *all* individual objects have their origins essentially. But, then, branching *de re* modalities are pervasive: They exist for all individuals. That being the case, it is natural to extend the branching conception for *de re* modalities to *modality in general*.

3.2 De Re Modality and the Numerical Identity Requirement (NIR)

The metaphysical possibilities are just the "ways things could have been". I will now argue that this claim ought to be interpreted such that the metaphysical possibilities are "ways the *actual world* could have been," where "actual world" rigidly designates our world—this very world—which is actual. First, I would like to suggest that "the actual world" is not an indexical term; that is, it refers rigidly to this very world. This is not terribly controversial. It is true that David Lewis rejects this usage—he uses "actual" indexically[267]—but this usage is commonly thought to be a radical one. But, neither is "the actual world" a "super-rigid" designator. Now, when I refer to the "actual world", I

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[267] Lewis (1986), §1.9.

do not mean the *actualized* world. If there exist a multitude of abstract possible worlds, for instance, only one of these is *actualized*. That abstract entity which is the *actualized* world (if there exists such a thing) refers *super*-rigidly to an *exact* particular set of propositions or states of affairs—i.e., if one single proposition or state of affairs were replaced, it would no longer be the same set, and therefore, not the same world. My claim here is that, while the *abstract* referent of "actual world" may be super-rigid in this way, the *concrete* referent of that term—i.e., this world that I am in right now—is not. Consider: Things could have been different. My claim here is that, what we mean by this is that *this (actual) world could have been different*. Therefore, "the actual world" refers rigidly—but not super-rigidly—to this actual object, which is reality.

Certainly, this claim makes sense when it refers to *individuals*; surely there are other ways things could have been for *particular individuals*, where the name of that individual refers rigidly, but not super-rigidly. Consider Hubert Humphrey, for instance. When I say that "Humphrey could have won the election", I mean that *Humphrey—this very man in the actual world*—could have won the election. As Robert Adams notes,

> We think of individuals as having alternative futures which are possible for them as *the very same individuals*, and we think of events as having alternative successors by which they, *the very same events* could possibly be succeeded.[268]

A way that things could have been for Humphrey is, therefore, a way which (were it actualized) would include this very man, the actual Humphrey. In short, any unactualized possibility for Hubert Humphrey would (if it were actualized) include the *same man, with different properties*. The *de re* case seems to have implications for the world itself however: For, since the possible scenario where Humphrey wins the election includes *Humphrey—i.e., this very man*—it must also contain some (rather large) portion of *this very world*. For that possibility is one such that (if it were actual) it would *include the same (identical) timeline with the actual world up until the presidential election*, and then diverge from there.

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[268] Adams (1979b), 199 (emphasis mine).

The implication is that, at least in cases of *de re* modality, *this very world* could have run along in its timeline exactly (or nearly exactly) up to a certain point (somewhere on or around election day), and could have diverged from the actual course of events in such a way that Humphrey was victorious. But, if we consider this to be "same Humphrey, gone differently" in the *de re* case, it is only natural to conclude that this also entails "same world, gone differently".

This conclusion, of course, rules out the idea that the possibility where Humphrey wins the election is merely *qualitatively* identical to the actual world up to election day. That is counterpart theory. I mean to suggest, rather, that (if that scenario had been actualized) there would be *numerical* identity up to election day—for, otherwise it is not *Humphrey* who wins the election in the possible scenario, but some imposter; some look-alike. Contrast this with the following principle, proposed by Robert Adams:

> If (1) individual *a* exists in possible world *w* at time *t*, and individual *a′* exists in possible world *w′* at time *t′*; and (2) the whole history of *w′* up to and including *t′* (and no other time in *w′*) is **precisely the same, *qualitatively***, as the whole history of *w* up to and including *t* (and no other time in *w*); and (3) the whole previous history and present state of *a′* (and of no other individual in *w′*) at *t′* is **precisely the same, *qualitatively***, as the whole previous history and present state of *a* (and of no other individual in *w*); then *a* is **numerically identical** with *a′*.[269]

My thesis is that Adams is mistaken here. Individuals *a* and *a′* cannot be *numerically* identical if the lives they live or the worlds they inhabit are only *qualitatively* identical. Qualitative identity does not guarantee numerical identity. We would not say that (qualitatively) identical twins are one and the same individual, for instance. But, why should it make a difference whether or not the twins live in different worlds? It should not make a difference. David Lewis seems to get things right where Adams is mistaken here: If two individuals are *qualitatively* identical, this is only enough to guarantee *similarity*, but not (numerical) *identity*. As we saw in chapter 3, Lewis's counterpart theory yields the result that individuals are "world-bound". That is, strictly speaking, there is (according to

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[269] Ibid., 196-197 (emphasis mine).

counterpart theory) no other way that *I—me, this very person writing this*—could have been. Rather, there are simply other ways that my counterparts (people who I am related to via a certain sort of similarity) *are* (in other worlds).[270] This is because the counterpart relation is not an identity relation, but rather a similarity relation. In the *de re* modal cases we are considering here, however, there is *identity*. For Adams's conclusion (that the individuals are numerically identical) to follow, therefore, I maintain that *the worlds themselves must be numerically identical (if actualized)*.

In light of the necessity of origin thesis (and the branching conception for *de re* modality that it entails), then, we have the following modal requirement:

> **The Numerical Identity Requirement (NIR)** According to the branching conception …
> if two worlds *u* and *v* have some existent object in common … then some initial segment of
> *u* is **numerically** identical to some initial segment of *v* …[271]

The implication of this requirement is that at least some of the possible worlds *share parts*—some of them share quite a lot of parts, in fact, since *all* individuals have their origins essentially (as argued above), and each of these demands a multitude of possibilities which all share their initial segments in common. But, it is difficult to see how possible worlds could share parts in common (some of them even sharing all and only the *very same* parts) without sharing identity. My proposal is rather that, just as Humphrey's *de re* possibilities all include the *same Humphrey, gone differently*, the metaphysical possibilities are just the *same world, gone differently*. In other words, metaphysical possibility is just the largest of all the *de re* modalities.

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[270] Note that this assertion requires a rejection of the Lewisian analysis; i.e., the claim that having the property of possibly φ-ing *just is* to have a counterpart who φ's.

[271] Forbes (1987), 304 (emphasis mine). Note that I have supplied the title of this requirement.

See also: "The generalization of the branching conception we want is this: if *u* and *v* are worlds which at any time have some existent object in common, then *u* and *v* have some initial segment of their courses of history in common." [Forbes (1985), 151]

3.3 Ways THE World Could Be

My conclusion has been that the branching structure of *de re* modalities forces itself upon at least some of the possibilities themselves. This is due to the Numerical Identity Requirement, which requires that, e.g., every way things could have been which includes Humphrey must share some *numerically identical* initial portion in common. Since all of those worlds share a numerically identical initial portion in common, they seem to be cases of *same world, gone differently* (just as the various ways that Humphrey could be are cases of *same Humphrey, gone differently*). But, since the necessity of origin applies to *all* individuals, it seems that most (perhaps all?) of the possibilities will be the same world, gone differently—the only possibilities which would not share some initial portion in common with the actual world are those which have none of the same individuals in common with the actual world (e.g., worlds that are *completely different*, or else *empty*). My suggestion is that we do not apply the label of "metaphysical possibility" to those worlds which are completely different or empty—for the term is most naturally interpreted to mean ways *the* world—i.e., this world; *actuality*—could be.

Notice then, that what we call the "trans-world" identity of individuals is only *trans-world* identity in one sense—but it is *intra-world* identity in another sense. For instance, if there are various ways things could have been for Humphrey, then Humphrey (or, rather, some representation of Humphrey) is a member of various abstract sets (of, e.g., propositions) which *represent* the various possibilities for Humphrey. In that sense, he exists in multiple (abstract) worlds—but this is really just the say that Humphrey (or, some representation of Humphrey) is a member of multiple sets. *Humphrey* exists in one and *only* one world; namely, *this*, the actual world—*the* world, if you will, for there is but one actuality.

The heart of the issue, then, seems to be whether or not the metaphysical possibilities refer to "ways **a** world could be" or "ways **the** world could be." David Lewis clearly takes the former stance, writing, "There are ever so many ways that **a** *world* might be; and one of these many ways is

the way that this world is."[272] I propose that the latter stance is correct. This suggestion is not

entirely foreign to the philosophical literature. For instance, Penelope Mackie discusses how one

might extend the branching view for *de re* possibilities to metaphysical possibility in general.[273]

Certainly, as we saw in chapter 2, Ross Cameron would be sympathetic to the view I am proposing.

There, we saw that Ross distinguishes between *de dicto* and *de re* metaphysical possibilities, with the

conclusion that not every *de dicto* way things could be is a *de re* way the world could be.[274] This

conclusion is entailed by Ross's attribution of essential properties to the actual world—properties

that *the* world could not fail to have (though *a* world could fail to have them). The difference

between Cameron's view and my own is the latter parenthetical claim, that (in addition to the *de re*

ways the world could be) there are metaphysically possible worlds which are not *de re* ways the world

could be. He calls these the *de dicto* metaphysical possibilities. My claim is that this latter category of

possibility should rather be called something else; e.g., *logical* possibility. My own claim is heavily

supported in the literature (though I doubt that the following authors are aware of the implications

of their choice of words). What follows is a sample of this support:

The De Re Reading of "Metaphysically Possible" [275]
(1) Alvin Plantinga: A possible world is "*a way* **the** *world could have been*."
(2) Peter van Inwagen: "By a possible world, we mean simply a complete specification of the *way* **the** *World might have been*," where "'the World' is the totality of everything there is."
(3) David Armstrong: According to many philosophers, "The actual world is a possible world. The *other* possible worlds, the merely possible worlds, are *ways that* **the actual world** *might have been*."
(4) Stephen White: "As Kripke has argued, possible worlds are *ways* **the actual world** *could have been*."

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[272] Lewis (1986), 2 (emphasis mine).

[273] Mackie (2006), 105.

[274] Cameron (2008b), 413-414.

[275] Plantinga (1974), 44 (bold mine; italics in original); van Inwagen (2002), 97 (emphasis mine); Armstrong (1989), 3 (emphasis mine, except the word "other", italicized in the original); White (2010), 96n (emphasis mine); Jubien (1991), 249 (emphasis mine); Soames (2011), 80 (emphasis mine).

(5) Michael Jubien: "A common view about possible worlds is that they are abstract entities that somehow represent the various *ways **the concrete universe** might have been*."

(6) Scott Soames: "For Kripke … [m]etaphysically possible world-states are maximally complete *ways **the real concrete universe** could have been* – maximally complete properties that the universe could have instantiated."

My conclusion so far is that, if things can go differently for Humphrey, but not for the actual world—i.e., if metaphysical possibility is not a variety of *de re* possibility—one must believe either that: (i) Worlds should not be treated as individuals, or wholes; rather, worlds are in some way fundamentally different than individuals within worlds. (ii) Even if two possible worlds w_1 and world w_2 contain all and only the same individuals, but with different properties, they are not the same world. I find both of these claims counter-intuitive. But, there are other reasons to accept the *de re* interpretation of metaphysical possibility, independent of the intuitions I have been appealing to.

For instance, suppose that we, with Lewis, individuate worlds by some criterion of spatio-temporal connectedness. That is, suppose that we claim that some possibility counts as a distinct world just as long as it is spatio-temporally isolated; i.e., the boundaries of a world are its spatio-temporal ones. Now, it is often thought that *causally related* entities are also *spatio-temporally related* entities, but perhaps they are not. In order to allow for non-spatio-temporal causal entities (e.g., God) to be a part of a world, then, let us alter Lewis's criterion to say that some possibility counts as a distinct world just as long as it is both spatio-temporally and *causally* isolated. Now, on the branching view of *de re* modality outlined above, we said that there is a possible world where Humphrey wins the election, and that world contains *this very man* (the actual Humphrey). But, notice that this possible world *is* causally (and spatio-temporally) connected to the actual world. Specifically, it is one which shares a large initial portion in common with the actual world and then diverges at or around the time of the presidential election. Since the two possibilities share their initial segments in common, they are spatio-temporally and causally related. So, if we endorse Lewis' criterion for

individuating worlds, it will at least turn out that worlds involving *de re* possibilities (e.g., where Humphrey wins the election) will be numerically identical to the actual world.[276]

Another reason to interpret the "metaphysical possibilities" as the *ways the actual world could be* is that the system of S5 recommends it. According to S5, *all* of the metaphysically possible worlds are "accessible" at the actual world, w*. The natural way to interpret "accessible" is as follows: A possibility is "accessible at the actual world" if it is *a possible way that the actual world could be*. This interpretation is supported by the fact that there are *other* modal systems which capture *other* interpretations of "metaphysical possibility". For instance, a system which denies the transitivity or symmetry of the accessibility relation will be one in which there are possible worlds which are *not* ways that *this* world could be, since (on those systems) there are possible worlds that are not accessible at the actual world. My claim is that it is natural to interpret an inaccessible "possible" world as a way that "a" world could be, but not a way "the" world could be.

4 Branching Possibilities and Dispositional Truthmakers

I will now suggest that, if metaphysical possibility *in general* is a form of *de re* possibility which takes a branching structure, then the truthmakers for what is possible should be *causal* ones. Penelope Mackie notes, "Admittedly, this model has its genesis as a model of thinking about causal possibilities. But—[John] Mackie suggests—we find it natural to extend the modal to metaphysical possibilities that go beyond the causal possibilities." But, perhaps the metaphysical possibilities *just are* the causal possibilities. Alexander Pruss holds such a view, for instance, taking a branching view of metaphysical possibility with a necessity of origin with the following results: (1) The necessary origin that all possible worlds share is God. (2) What makes the branches possible are the "causal

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[276] Lewis even notes that, if the branching view were true, the "possible worlds" would not really be other worlds, but would rather be branches of one single world. [Lewis (1986), 209]

capabilities" of objects. (3) The branches need not all be temporal (since God is outside of time).[277] I propose that something like Pruss's view is the correct one.

In the *de re* case, the natural inference is that the branching possibilities are possible in virtue of the *causal capacities* of the individuals that those possibilities are for (or of the individuals around them). When we say, for instance, that I could have been a truck driver, we mean that I could have *causally* brought it about that I am a truck driver. Likewise, when we say that Humphre*y could have w*on the election, we mean that the voters could have caused Humphrey to win. It seems that, within each life, there are various causal "nodes" from which the various alternate possibilities branch. In my own past, for example, there have been (and still are) many opportunities for me to actualize some branching possibility where I am a truck driver—but these opportunities are just decision points, at which it is open to me to bring about one option or another. So, at least in cases of *de re* modal claims, to say that "Individual X could have been in circumstance Y" simply means that, somewhere in the *actual* history of X, there was a causal node which made it such that it was possible for Y to be actualized (i.e., causally brought about).

But, if causal capacities are the ground of all branching possibilities in the *de re* case, and if metaphysical possibility in general is just a type of *de re* modality (namely, the largest or most inclusive one), then causal capacities are the ground of all branching possibilities *in general.* (Note that the normal notion of causation may not apply to all of the general possibilities, since the actual world may include causally potent entities which are, for instance, *outside of time*—e.g., God). If this is the case, then all of the metaphysically possible scenarios are branches which share some causally potent portion in common with the actual world. This should not be that surprising. Above, we have already established that at least *some* of the metaphysically possible scenarios share the same initial segment with one another (for instance, the scenario where Humphrey wins the election

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[277] See Pruss (2011), 213, 216.

shares an initial portion with the actual world). My conclusion here is that *all* of the metaphysical possibilities share some initial segment in common with the actual world.

The strategy of this section has been as follows: Beginning with the necessity of origins, defended in chapter 5, we arrived at a branching conception of *de re* metaphysical modality, where the possible branches for individuals are grounded in causal capacities). From there, I argued for a *generalized* version of this branching conception, where the actual world is treated as an individual and is therefore subject to the same intuitions about branching which we had in the *de re* case. Thus, the necessity of origin lends some independent support of the branching conception of possibility where the modal truthmakers are causal dispositions, which was defended in chapter 3, and further examined in chapter 4. An argument for this conclusion has been something like the following:

1. Necessity of origin is true for all individuals.
2. If the necessity of origin is true for all individuals, then any metaphysical possibility for a particular individual, X, will include the *actual* origin of the *actual* individual X—such that the only way in which these metaphysical possibilities will differ from the actual world is that they will diverge or "branch off" from it.
3. The actual world is an individual, designated rigidly (but not super-rigidly).
4. Metaphysical possibility simpliciter refers to "ways the actual world could have been."
5. Therefore, metaphysical possibility refers to scenarios which include the *actual* origin (or, at least, some initial portion) of the *actual world*—such that the only way in which the unactualized metaphysical possibilities will differ from the actual world is that they will diverge or "branch off" from it.

5 Objections

5.1 Eternalism and Metaphysical Fatalism

On the eternalist view of time, the past, present, and future all have the same ontological status; they are all "real". As we saw above, the branching conception of possibility requires that the future is open (we called this The Assumption of Open Futures). One might worry that, if eternalism is correct, then the unactualized "possibilities" are really impossible, since the future would not be open in that case. For, on eternalism, the fact of the matter about which world gets actualized is

already eternally "set in stone," so to speak. Therefore, all of the non-actual branches are necessarily doomed to remain non-actual; i.e., there are no unactualized metaphysical possibilities.

This is not quite an accurate representation of New Actualist Dispositionalism (NAD), however. While it is true that the causal chain is in some sense "set in stone" once it is actualized, it remains the case that things *could have gone* differently—namely, so long as that actualized causal chain possesses the relevant probabilistic dispositional properties. In other words, even if there is only one actualized world, this does not entail that it is *necessarily* actualized. The present worry is akin to the problem of human freedom versus divine foreknowledge. The worry there is that, if God infallibly knows in advance that I will do X tomorrow, then I cannot choose to do anything but X tomorrow (and I therefore do not choose it *freely*). However, it seems that, even if God knows that I will do X in advance, my choice to do X can still be a free one—namely, so long as the *power* or *causal capacity* is still there (e.g., my free will). If God's foreknowledge is of that which I will *freely* choose, then the alternate possibilities are still grounded in my *freedom* (though they will not in fact be actualized); and this is basically just to say that the unactualized possibilities are grounded in my probabilistic dispositional properties. But, this is just what the NAD view proposes; i.e., that the unactualized possibilities are grounded, so long as the causal timeline (fixed or no) possesses the relevant dispositions.[278] [279]

5.2 The Indeterminate Identity of the Actual World

A worry related to the previous objection is that, if eternalism is *not* true, then the identity of the actual world is indeterminate. If the future is open, then *all* of the future branches are

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[278] Unactualized possibilities on the growing block view would be grounded in the same way (i.e., in dispositional properties somewhere along the block). On presentism, the unactualized possibilities are grounded if either: (1) The present contains the relevant dispositions, or (2) There is some truthmaker in the present moment for how things were (back along the causal chain), and the way that things were contained the relevant indeterministic causal nodes.

[279] Those convinced that divine foreknowledge would be incompatible with freedom will likely also conclude that eternalism is incompatible with the existence of indeterministic dispositional properties. If so, this may be cause to reject eternalism.

unactualized—including whichever one will become actual. And, since the truthmakers for these future, unactualized branches must be indeterministic, then there are presently no facts of the matter about what the rest of the future will be like. Therefore, there is no fact of the matter about which possible world we are in—and therefore, the identity of the world we are in is indeterminate.

Before giving my reply, it may help to consider the parallels between the identity of the actual world (on the branching conception of possibility) and the identity of a growing tree. Graeme Forbes considers the following worry:

> we have the tree in front of us *now*, before it starts growing branches, and there is only *one* tree there. It is currently indeterminate which branches will grow on the tree that is in front of us now. Therefore it is currently indeterminate which of the various possible trees it *is*.[280]

Forbes's reply is that the identity of the tree is not really indeterminate. Rather, all of the "possible trees" are the *same tree* (call it Elmer). We simply fix the referent of "Elmer" by pointing to *that tree*, and saying "That is Elmer."[281] Though Elmer's future is open, however things turn out, it will be the *same Elmer, gone differently*—just as, if Humphrey had won the election, it would have been the *same Humphrey, gone differently*.

Now, there may be a collection of *representational* entities which represent all of the various ways Elmer could grow—and it may be indeterminate as to which of the *those* Elmer instantiates—but this does *not* entail that *Elmer's* identity is indeterminate. For, all of the representations represent the same individual; i.e., the representational entities (if they exist at all) are representing all of the ways that *Elmer could be*.

My response to the worry that the identity of the actual world is indeterminate is much the same as Forbes's response to the above worry about the identity of a growing tree. For, the claim in this

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[280] Forbes (2002), 335.

[281] Note that, because we assume that the future is open, the conclusion that Elmer's identity is fixed by his origin easily follows. See chapter 4 for a discussion of the relationship between the Assumption of Open Futures and the necessary origin.

chapter has been that metaphysical possibility *in general* is just a special case of *de re* possibility—for all of the metaphysical possibilities are *ways this actual world could be*. In that case, we can fix the referent of "the actual world" by pointing to anything in *this actual world*. "The actual world" refers to *this one*—the one I am in. Given this claim, the response to the objection is as follows: Just as Elmer's identity is not indeterminate even though his future is open, the actual world's identity is not indeterminate even though its future is open. All of the "possible trees" are just the *same tree, gone differently*. Similarly, all of the metaphysical possibilities are the *same world, gone differently*. What *is* indeterminate is which one of the ersatz representational entities—i.e., all of the representations of the ways *this world* could be—the actual world instantiates (if there are such things).

5.3 Individuating Possibilities

The answer to the previous objection gives rise to another worry: If metaphysical possibility is just a special case of *de re* possibility such that all of the possible worlds represent the same object (i.e., the actual world), then how do we individuate *the worlds*? The answer is very simple: Worlds are sets (of, e.g., propositions or abstract states of affairs)[282]—and, if two sets have different members, then they are numerically distinct. So, abstract worlds are individuated because they represent *different states of affairs* as obtaining. Alternatively, consider it this way: Worlds are representational entities. But, representations can easily be individuated, even if the object that they represent is always the same. If I showed you a pile of photos of myself, it would not occur to you to ask the question, "I don't understand how these can all be different photographs, since the subject in every image is the same." So, there is no problem for individuating worlds.

While I see no problem for individuating abstract worlds, a couple of worries may follow. The first was mentioned in the previous objection: While it may not be the case that the identity of the

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[282] Assuming Lewis is wrong, of course.

actual world is indeterminate, it *is* the case that the fact of the matter of which possible world the actual world *instantiates* is indeterminate (unless eternalism is true). But, this should not be worrisome: For, as we saw above, just as there may be no fact of the matter about which of the representations Humphrey instantiates, of all of the ways that Humphrey's life could go from beginning to end, similarly, there may presently be no fact of the matter about which ersatz world accurately depicts the way the actual world will go, from beginning to end—and this is not so counter-intuitive.

The second worry follows from the first: It is typically thought that "the actual world" refers to just *one* of the (maximal) possible worlds—namely, the one that is actually instantiated.[283] But, according to what I have just said, this cannot be the case, since (on my view) there is no single maximal ersatz world that is instantiated. This accusation is correct (unless eternalism is true). However, I would like to point out the following: (1) Among the set of *all* possible worlds, there *is* at least a *subset* that are the candidates for actualization—and, as time moves forward, this subset of worlds that could get actualized gets smaller and smaller. (2) Furthermore, there *is*, if you like, some ersatz, representational entity that *does* accurately represent the actual world *as it is*. Only, it is not a *maximal* entity, since it merely represents the actual world *so far*—we may call it a "world", perhaps, though it is not one in the traditional sense. (3) This objection fails if eternalism is true. For, if eternalism is true, then there *is* a fact of the matter about which of the (maximal) ersatz worlds is instantiated. This may, in fact, be an independent reason to endorse eternalism over other views of time.

5.4 A Place for Possible Worlds

The actualist, non-ersatz views of modal truthmaking (i.e., the ANT views) are largely motivated by rejecting possible worlds as suitable modal truthmakers. Most ANT theorists reject the existence

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[283] See, for instance: Plantinga (1974), 45.

of possible worlds altogether. Is there no place, then, for these worlds? If there is not, then the discussion from the previous two objections is a moot point. However, there *is* a place for possible worlds on the ANT view, and I am somewhat attracted to endorsing the existence of ersatz worlds.

Now, surely there are other ways things could be. But, to admit that there *are* "ways things could be" is, in some sense, to agree that these "ways" exist. As we saw in chapter 1, many have suggested that these "ways" are abstract, representational entities existing in the actual world, and these make the modal truths true. I called this view actualist ersatzism. The actualist ersatzist about modal truthmakers would suggest that <Possibly, there are unicorns> is true *because* there exists a possible world where it is true that there are unicorns. My claim here has been that these worlds (if they exist) do not make suitable modal *truthmakers*. I have not ruled out their existence altogether, however.

Now, it seems that the ersatzist's conclusion about truthmaking stems from another claim: Melia suggests that "All moderate realists [i.e., actualist ersatzers] accept the biconditional: ◊P iff there is a possible world at which P is true."[284] I believe that many philosophers see this as an implication about *truthmakers*. But, the biconditional can be true even if worlds are not the modal truthmakers. First, note that the claim above is a *biconditional*. As such, the relation is symmetric. But, as we saw in chapter 2, the truthmaking relation is *asymmetric*. The biconditional, I suggest, picks out a truth *condition*, but not a truth*maker*. The truth condition stated by this biconditional merely recognizes that the propositions <Possibly, P> and <There is a possible world at which P is true> must always have the same truth value. But, this indicates nothing about *truthmakers*.

I propose that *both* of these propositions are still in need of a truthmaker. Truthmakers are *different in kind* from the truthbearers. As such, the propositions on *both* sides of the biconditional above require truthmakers. Consider for instance a familiar set of truth conditions: S knows that P iff S believes that P, S is justified in believing that P, and P is true. This is merely the claim that the

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[284] Melia (2003), 124.

truth values of the two propositions <S knows that P> and <S has a justified, true belief that P>
must stand or fall together. They are still in need of a truthmaker. But, a simple way to explain why
the truth values of the two propositions are necessarily correlated is to suggest that the two
propositions *have the same truthmaker*—and, on the ANT view, this will be some actual, non-ersatz
entity. The truthmaker for <S has a justified, true belief that P> might be something like S, and S's
neurological states, and whatever makes P true, etc.—but these same things would *also* be the
truthmaker for the proposition, <S knows that P>. So, these things make the propositions on *both*
sides of the bi-conditional true.[285]

My conclusion, then, is that on NAD, <I could have been a truck driver> is true in virtue of,
e.g., my dispositional properties (and the dispositional properties of engines, and tires, etc.). But,
those properties are *also* the truthmakers for the proposition, <There is a possible world at which I
become a truck driver>. So, both the modal truths *and* the existence of (ersatz) possible worlds are
grounded in the non-ersatz entities of our actual world. Kit Fine has recommended something like
this approach:

> A more acceptable answer is that this [possible worlds] talk is legitimate, but not basic; it
> stands in need of analysis. The modal actualist will eliminate talk of possible worlds and
> possible objects in favour of the ordinary modal idioms and quantification over actuals. …
> Thus the previous [possible worlds] analysis will be turned on its head, with the connectives
> and restricted quantifiers … coming first and the worlds … and unrestricted quantifiers
> emerging as a construct from them.[286]

Thus, worlds are not basic; rather, they are secondary. Finally, accepting the existence of these
worlds does not seem a great cost ontologically, since they are merely the representations of the
possibilities, or the modal truths—as innocuous as numbers or propositions.[287]

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[285] Something like this point is made in Rhoda (2009), 55.

[286] Fine (1977), 118.

[287] One might worry that, if modality is not located in the worlds themselves, then there could also be *impossible* worlds (i.e., ones which represent impossibilities). (Kment, for instance, suggests that there are impossible worlds [See Kment (2006), 241, and Kment (forthcoming)]). But, it is difficult to see how an impossible world could exist—e.g., one which

CHAPTER SEVEN

WAYS THINGS COULD BE

1 Concluding Remarks

We set out to discover a variety of possibility which is potentially narrower in scope than logical possibility, potentially broader in scope than nomological possibility, and is informed by the logical, semantic, conceptual, and metaphysical truths. We called this "metaphysical possibility". I believe that I have met this goal. We might summarize the definition of metaphysical possibility that I have offered as follows:

> **Metaphysical Possibility** P is metaphysically possible iff P is actual, or else P is (ultimately) a possible manifestation of some actual disposition (past, present, or future).

When I say that P is "ultimately" a possible manifestation of some disposition, I mean to allow that P need not be the *immediate* effect of some actual disposition—for it may be the case that P is possible because some actual disposition, D_1, could give rise to some other disposition, D_2, which could give rise to some ..., etc., such that P is a possible manifestation of D_n. Furthermore, note that *no* manifestation of any possible disposition will be such that its manifestation is inconsistent with the logical, semantic, conceptual, or other metaphysical truths (e.g., truths about the essences of objects or non-dispositional properties)—for such truths restrict the sorts of dispositions that there are.

This way of thinking about metaphysical possibility grounds possibilities not in other *worlds* or *sets of propositions*, but in *objects*. On this view, *you and I* are the truthmakers for modal truths—as are

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represents that there *is water* in Lake Michigan but there is *not* H_2O in Lake Michigan—for, how could such an inconsistency even be represented?

the things around us. I take this to be the ordinary intuition regarding possibility. While it is the case that the present view treats metaphysical possibility as a *de re* notion, I believe this to be the natural way of thinking as well. At the very least, it is this variety of possibility that we should care about most. While contemplating what things are consistent with the logical or conceptual truths may tell us something about logic and semantics and the notion of consistency, it tells us nothing about *what could have been the case*. The ordinary individual has no concern for what is *conceivable*—she wants to know *what are the ways this world could have been?* Thus, I believe my account of possibility to be the most intuitive; I believe that it alone captures what we have always meant by the word *possible*. For, it is only those possibilities which are grounded in the powers of actual individuals that we are concerned with when we ask, *What things are possible?*

2 What Things Are Possible

I have said that indeterminism (e.g., probabilistic dispositions) is the source of all unactualized metaphysical possibilities. Furthermore, all of the metaphysical possibilities are grounded in something *actual.* In that case, a great deal will depend upon what sort of indeterminism exists in the actual world. Depending upon what actually exists, it may turn out that a *great deal* of things are metaphysically possible; or it may turn out that nothing is possible except what is actual. For instance, if God *actually exists*, complete with omnipotence and libertarian free will (i.e., his powers are indeterministic), then a great deal is metaphysically possible. This is a very common position for theists to take. Saint Thomas Aquinas grounded all of the modal truths in facts about God, for instance, stating that all of the possible effects pre-exist in God's power.[288] Alvin Plantinga grounds at least some of the possibilities in God's power. For instance, he writes, "No doubt there could

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[288] Leftow (2005a), 174. Aquinas speaks *as if* God has powers, though strictly speaking he cannot ground the modal truths in God's *dispositional powers*, since God is pure Actuality; i.e., has no un-manifested possibilities pent up within him. See Leftow (2005b), 241.

have been [non-actual individuals]; God could have made more or different persons."[289] And Alexander Pruss explicitly defends the view that all metaphysical possibilities are grounded in God's powers.[290]

If creatures possess (undetermined) libertarian free will, they too are sources of unactualized metaphysical possibilities. For instance, as we noted above, if I have free will, then I (or some dispositional property of mine) is a truthmaker for <I could have been a truck driver>. Note that, if both a free God *and* free creatures exist, many of the modal truths will be over-determined by their truthmakers. For instance, <A table could exist> would be made true by God, as well as some (most?) human beings, and also by every actually existing table.

But, free will need not be the only source of unactualized possibility. It might be the case that inanimate matter possesses dispositional properties which are probabilistic as well. I take this to be what the physicists are talking about when they speak of quantum indeterminacy, for instance. So, if there is no God, then there is still room within the present view to ground some of the radically different unactualized possibilities. If the origin of the present physical universe is not a God but rather some singularity, for instance, then the world could still have been quite different, so long as the singularity possessed the relevant (indeterministic) dispositional properties.

In short, the whole of metaphysical possibility is dependent upon what sorts of causal entities *actually exist*. To fully answer the question, "What things are possible?" there is a great deal of work cut out for the philosophers and the physicists, then. Answers to the questions, Is there free will? Is there quantum indeterminacy? Does God exist?—answers to these questions will be of great import toward answering the question of what is possible.

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[289] Plantinga (1985), 92.

[290] Pruss (2011).

It seems that most of our progress to date has been toward figuring out what is *not* possible. For instance, the logical and semantic necessities will trickle down to restrict the metaphysical possibilities, such that propositions like <Something is both red and not red>, <Something is both red and not colored>, <2+2=5>, <Something is both a square and a circle>, and <Someone is a married bachelor> all turn out to be metaphysically impossible. Furthermore, some of the metaphysical truths (namely, the ones regarding object and property essences) only restrict the possibilities, rather than generate them. For instance, I have argued here that propositions such as <Socrates is an alligator>, <Something is both a horse and a human>, <Socrates's parents are Harry and Bess Truman>, and <Table (the name of an actual table that originates in a hunk of oak) originates from a chunk of ice> all turn out to be metaphysical impossibilities. And finally, as we have seen, the particular truthmaker theory I have proposed has also yielded the result that the propositions <Nothing exists> and <None of the actual individuals exist> are both metaphysically impossible as well. These propositions are the ceiling of metaphysical possibility. The work remaining, then, is to discover how close to that ceiling the powers of the individuals in the actual world can take us.

Table 1: A Sample of Candidate Truths and Their Plausible Truthmakers[291]

Proposition[*]	Truthmaker
<A dog exists>	Any actual dog
<Fido (a particular dog) exists>	The particular actual dog, Fido
<Humphrey could have won the election>	Humphrey (the particular actual man), and certain dispositional properties (e.g., of voters)
<If X is a dog, then X can bark>	The set of all actual dogs and their actual dispositions (which all actually have the possible manifestation of barking)
<Possibly, there is a dog which cannot bark>	Some actual causal node (past or present), with the possible manifestation** of a dog which cannot bark (e.g., of some dog which can give birth to a barkless dog, or of some mutilator which can remove a dog's ability to bark, or of God who could make it be so, etc.)
<Possibly, a unicorn could exist>	Some actual causal node (past or present) with a possible manifestation** of a unicorn (e.g., God, the initial singularity, etc.)
<Possibly, the physical laws could be different>	Some actual causal node (past or present) with a possible manifestation** of different physical laws (e.g., God, the initial singularity, etc.)
<Necessarily, philosophical zombies do not exist>	All of the actual causal nodes (past and present) which lack the possible manifestation** of a philosophical zombie (along with, perhaps, some totality facts regarding all of the possibilities)
<Necessarily, God exists>	All of the actual causal nodes (past and present) which lack the possible manifestation** of there having been no God (along with, perhaps, some totality facts regarding all of the possibilities)
<Necessarily, something exists>	All of the actual causal nodes (past and present) which lack the possible manifestation** of there having been nothingness (along with, perhaps, some totality facts regarding all of the possibilities)

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[*] That is, *if* these propositions are true, the items in the right column would be their truthmakers.

** Here, I am referring to either an *immediate* manifestation of X, or else to a manifestation which begins a series of further, possible manifestations which *ultimately* manifest as X.

[291] Note that only "strictly-metaphysical" modal propositions are included here. For instance, though <All bachelors are married> is metaphysically necessary, that necessity is introduced at the level of broad logical necessity. Thus, that proposition is not made true by some metaphysical fact, but rather some semantic ones (for instance, the meaning of the terms and the relations between them); and similarly for propositions such as <2+2=4>, <All triangles have three sides>, <If X is red, then X is colored>, <If X is a dog, then X is a mammal>, etc. Such propositions will be made true by facts about logic, semantics, concepts, etc., and certain relations which hold in each of those domains.

REFERENCES

Adams, Robert Merrihew (1979a). Primitive Thisness and Primitive Identity. *The Journal of Philosophy*, 76(1), 5-26.

Adams, Robert Merrihew (1979b). Theories of Actuality. *The Possible and the Actual*, Michael J. Loux, ed. Ithaca: Cornell University Press, 190-209.

Aristotle (2001). The Categories. *The Basic Works of Aristotle*, Richard McKeon, ed. New York: The Modern Library.

Armstrong, D.M. (1985). *What Is A Law of Nature?* Cambridge: Cambridge University Press.

Armstrong, D. M. (1989). *A Combinatorial Theory of Possibility*. Cambridge: Cambridge University Press.

Armstrong, D. M. (1997). *A World of States of Affairs*. Cambridge: Cambridge University Press.

Armstrong, D. M. (2004). *Truth and Truthmakers*. Cambridge: Cambridge University Press.

Bealer, George (1987). The Philosophical Limits of Scientific Essentialism. *Philosophical Perspectives*, 1, Metaphysics, 289-365.

Bealer, George (2002). Modal Epistemology and the Rationalist Renaissance. *Conceivability and Possibility*, Tamar Gendler and John Hawthorne, eds. Oxford: Clarendon Press, 71-125.

Bird, Alexander (2001). Necessarily, Salt Dissolves in Water. *Analysis*, 61(4), 267-274.

Bird, Alexander (2007). *Nature's Metaphysics: Laws and Properties*. Oxford: Oxford University Press.

Borghini, Andrea and Neil E. Williams (2008). A Dispositional Theory of Possibility. *Dialectica*, 62(1), 21-41.

Cameron, Ross (2006). Much Ado About Nothing: A Study of Metaphysical Nihilism. *Erkenntnis*, 64, 193-222.

Cameron, Ross (2008a). Comments on Merricks's Truth and Ontology. *Philosophical Books*, 49(4), 292-301.

Cameron, Ross (2008b). How to be a Truthmaker Maximalist. *Nous*, 43(2), 410-421.

Cameron, Ross (2008c). Truthmakers and Modality. *Synthese*, 164(2), 261-280.

Cameron, Ross (2012). Why Lewis's Analysis of Modality Succeeds In Its Reductive Ambitions. *Philosophers' Imprint*, 12(8).

Chalmers, David (1996). *The Conscious Mind*. Oxford: Oxford University Press.

Chalmers, David (2002). Does Conceivability Entail Possibility? *Conceivability and Possibility*. Tamar Gendler and John Hawthorne, eds. Oxford: Clarendon Press, 145-200.

Churchland, Paul (2002). Inner and Outer Space: The New Epistemology. *Proceedings and Addresses of the American Philosophical Association*, 76(2), 25-48.

Contessa, Gabriele (2010). Modal truthmakers and two varieties of actualism. *Synthese*, 174(3), 341-353.

Divers, John (2002). *Possible Worlds*. New York: Routledge.

Divers, John and Joseph Melia (2002). The Analytic Limit of Genuine Modal Realism. *Mind*, 111, 15-36.

Dodd, Julian (2007). Negative Truths and Truthmaker Principles. *Synthese*, 156(2), 383-401.

Dyke, Heather (2008). *Metaphysics and the Representational Fallacy*. New York: Routledge.

Ellis, Brian and Caroline Lierse (1994). Dispositional Essentialism. *Australasian Journal of Philosophy*, 72(1), 27-45.

Fales, Evan (1982). Generic Universals. *Australasian Journal of Philosophy*, 60(1), 29-39.

Fara, Michael and Timothy Williamson (2005). Counterparts and Actuality. *Mind*, 114.

Feldman, Fred (1971). Counterparts. *Journal of Philosophy*, 68(13), 406-409.

Fine, Kit (1977). Prior on the Construction of Possible Worlds and Instants. *Worlds, Times and Selves*, A.N. Prior and Kit Fine, eds. Amherst: University of Massachusetts Press, 116-161.
Fine, Kit (1994). Essence and Modality. *Philosophical Perspectives*, 8, 1-16.

Fine, Kit (2002). The Varieties of Necessity. *Conceivability and Possibility*, Tamar Gendler and John Hawthorne, eds. Oxford: Clarendon Press, 253-281.

Forbes, Graeme (1980). Origin and Identity. *Philosophical Studies*, 37(4), 353-362.

Forbes, Graeme (1982). Canonical Counterpart Theory. *Analysis*, 42, 33-37.

Forbes, Graeme (1983). More On Counterpart Theory. *Analysis*, 43, 149-152.

Forbes, Graeme (1985). *The Metaphysics of Modality*. Oxford: Oxford University Press.

Forbes, Graeme (1986). In Defense of Absolute Essentialism. *Midwest Studies in Philosophy*, 11, 3-31.

Forbes, Graeme (1987). Places as the Possibilities of Location. *Nous*, 21(3), 295-318.

Forbes, Graeme (1990). Counterparts, Logic and Metaphysics: Reply to Ramachandran. *Analysis*, 50(3), 167-173.

Forbes, Graeme (1994). A New Riddle of Existence. *Philosophical Perspectives*, 8, Logic and Language, 415-430.

Forbes, Graeme (2002). Origins and Identities. *Individuals, Essence, and Identity*, A. Bottani, M. Carrara, and P. Giaretta, eds. Dordrecht: Kluwer Academic Publishers, 319-340.

Forrest, Peter (1986). Ways Worlds Could Be. *Australasian Journal of Philosophy*, 64(1), 15-24.

Gendler, Tamar and John Hawthorne (2002). Introduction: Conceivability and Possibility. *Conceivability and Possibility*, Tamar Gendler and John Hawthorne, eds. Oxford: Clarendon Press, 1-70.

Handfield, Toby (2008). Humean Dispositionalism. *Australasian Journal of Philosophy*, 86(1), 113-126.

Hawthorne, John and Tamar Szabo Gendler (2000). Origin Essentialism: The Arguments Reconsidered. *Mind*, New Series, 109(434), 285-298.

Hazen, Allen (1979). Counterpart-Theoretic Semantics for Modal Logic. *Journal of Philosophy*, 76, 319-338.

Hudson, Hud (1997). Brute Facts. *Australasian Journal of Philosophy*, 75(1), 77-82.

Jacobs, Jonathan D. (2010). A Powers Theory of Modality: Or, How I Learned to Stop Worrying and Reject Possible Worlds. *Philosophical Studies*, 151(2), 227-248.

James, William (1896). The Dilemma of Determinism. *The Will To Believe*. At: http://www.des.emory.edu/mfp/JamesDilemmaOfDeterminism.html

Jubien, Michael (1991). Could This Be Magic? *The Philosophical Review*, 100(2), 249-267.

Jubien, Michael (2007). Analyzing Modality. *Oxford Studies In Metaphysics*, Vol. 3., Dean W. Zimmerman, ed. Oxford: Oxford University Press, 99-139.

Kalhat, Javier (2008). Primitive Modality and Possible Worlds. *Philosophy*, 83, 497-517.

Kment, Boris (2006). Counterfactuals and the Analysis of Necessity. *Philosophical Perspectives*, 20(1), 237-302.

Kment, Boris (forthcoming). Modal Concepts and Causal Inquiry. Oxford: Oxford University Press.

Leftow, Brian (2005a). Aquinas on God and Modal Truth. *Modern Schoolman*, 82(3), 171-200.

Leftow, Brian (2005b). Power, Possibilia and Non-Contradiction. *Modern Schoolman*, 82(4), 231-243.

Lewis, David (1973). *Counterfactuals*. Cambridge, MA.: Harvard University Press.

Lewis, David (1986). *On The Plurality of Worlds*. Oxford: Blackwell Publishing.

Lewis, David (1992). Critical Notice of D. M. Armstrong, A Combinatorial Theory of Possibility. *Australasian Journal of Philosophy*, 70(2), 211-224.

Lewis, David (2001). Truthmaking and Difference-Making. *Nous*, 35(4), 602-615.

Lewis, David (2003). Things Qua Truthmakers. *Real Metaphysics: Essays in Honour of D. H. Mellor*. New York: Routledge, 25-38.

Loar, Brian (2003). Qualia, Properties, Modality. *Philosophical Issues*, 13, *Philosophy of Mind*, 113-129.

Loux, Michael J. (1979a). Introduction: Modality and Metaphysics. *The Possible and the Actual*, Michael J. Loux, ed. Ithaca: Cornell University Press, 15-64.

MacBride, Fraser (2005). Two Theories of Modality: A Reply to von Wachter. *Metaphysica*, 6(1), 111-127.

Mackie, J.L. (1974). De What Re Is De Re Modality? *The Journal of Philosophy*, 71(16), 551-561.

Mackie, Penelope (2002). Forbes on Origins and Identities. *Individuals, Essence, and Identity*, A. Bottani, M. Carrara, and P. Giaretta, eds. Dordrecht: Kluwer Academic Publishers, 341-352.

Mackie, Penelope (2006). *How Things Might Have Been: Individuals, Kinds, and Essential Properties*. Oxford: Clarendon Press.

Martin, C.B. (1996). How It Is: Entities, Absences and Voids. *Australasian Journal of Philosophy*, 74(1), 57-65.

McGinn, Colin (1976). On The Necessity of Origin. *The Journal of Philosophy*, 73(5), 127-135.

McKay, Thomas J. (1986). Against Constitutional Sufficiency Principles. *Midwest Studies in Philosophy*, 11, 295-304.

Melia, Joseph (2003). *Modality*. Ithaca: McGill-Queen's University Press.

Mellor, D. H. (2003). Replies. *Real Metaphysics: Essays in Honour of D. H. Mellor*, Gonzalo Rodriguez-Pereyra and Hallvard Lillehammer, eds. New York: Routledge, 212-238.

Merricks, Trenton (2003). The End of Counterpart Theory. *Journal of Philosophy*, 100(10), 521-549.

Merricks, Trenton (2007). *Truth and Ontology*. Oxford: Oxford University Press.

Molnar, George (2000). Truthmakers For Negative Truths. *Australasian Journal of Philosophy*, 78(1), 72-86.

Mondadori, Fabrizio and Adam Morton (1979). Modal Realism: The Poisoned Pawn. *The Possible and the Actual*, Michael J. Loux, ed. Ithaca: Cornell University Press, 235-252.

Mumford, Stephen (1998). *Dispositions*. Oxford: Oxford University Press.

Plantinga, Alvin (1974). *The Nature of Necessity*. Oxford: Oxford University Press.
Plantinga, Alvin (1985). Self-Profile. *Alvin Plantinga*, James E. Tomberlin and Peter van Inwagen, eds. Dordrecht: D. Reidel Publishing Company, 3-100.

Price, M.S. (1982). On The Non-Necessity of Origin. *Canadian Journal of Philosophy*, 12(1), 33-45.

Pruss, Alexander (2001). Possible Worlds: What They Are Good For and What They Are (dissertation manuscript).

Pruss, Alexander (2002). The Actual and the Possible. *The Blackwell Guide To Metaphysics*, Richard M. Gale, ed. Oxford: Blackwell Publishers, 317-333.

Pruss, Alexander (2011). *Actuality, Possibility, and Worlds*. New York: Continuum.

Putnam, Hilary (1975). The Meaning of 'Meaning.' *The Twin Earth Chronicles: Twenty Years of Reflection on Hilary Putnam's "The Meaning of 'Meaning'"* (1996), Andrew Pessin and Sanford Goldberg, eds. Armonk, NY.: M. E. Sharpe, Inc., 3-52.

Ramachandran, Murali (1989). An Alternative Translation Scheme for Counterpart Theory. *Analysis*, 49, 131-141.

Rhoda, Alan R. (2009). Presentism, Truthmakers, and God. *Pacific Philosophical Quarterly*, 90, 41-62.

Robertson, Teresa (1998). Possibilities and the Arguments For Origin Essentialism. *Mind*, New Series, 107(428), 729-749.

Rodriguez-Pereyra, Gonzalo (2004). Modal Realism and Metaphysical Nihilism. *Mind*, 113, 1-22.

Rodriguez-Pereyra, Gonzalo (2005). Why Truthmakers? *Truthmakers: The Contemporary Debate*, Helen Beebee and Julian Dodd, eds. Oxford: Oxford University Press, 17-32.

Rohrbaugh, Guy and Louis deRosset (2004). A New Route to the Necessity of Origin. *Mind*, 113, 705-725.

Rosen, Gideon (1990). Modal Fictionalism. *Mind*, 99(395), 327-354.

Roy, Tony (1993). Worlds and Modality. *The Philosophical Review*, 102(3), 335-361.

Salmon, Nathan (1981). *Reference and Essence*. Princeton: Princeton University Press.
Schaffer, Jonathan (2009). The Least Discerning and Most Promiscuous Truthmaker. *The Philosophical Quarterly*, 60(239), 307-324.

Shoemaker, Sydney (1998). Causal and Metaphysical Necessities. *Pacific Philosophical Quarterly*, 79, 59-77.

Sidelle, Alan (2002). On The Metaphysical Contingency of Laws of Nature. *Conceivability and Possibility*. Tamar Gendler and John Hawthorne, eds. Oxford: Clarendon Press, 309-336.

Sider, Theodore (2003). Reductive Theories of Modality. *The Oxford Handbook of Metaphysics*, Loux, M.J. and D.W. Zimmerman, eds. Oxford: Oxford University Press, 180-208.

Sider, Theodore (2006). Beyond the Humphrey Objection (manuscript).

Soames, Scott (2011). Kripke on Epistemic and Metaphysical Possibility: Two Routes to the Necessary A Posteriori. *Saul Kripke*, Alan Berger, ed. Cambridge: Cambridge University Press, 78-99.

Robert Stalnaker (1995). Modalities and Possible Worlds. *A Companion to Metaphysics*, Jaegwon Kim and Ernest Sosa, eds. Oxford: Blackwell Publishers, 333-337.

Swoyer, Chris (1982). The Nature of Natural Laws. *Australasian Journal of Philosophy*, 60(3), 203-223.

Van Inwagen, Peter (1998). Modal Epistemology. *Philosophical Studies*, 92. Netherlands: Kluwer Academic Publishers, 67-84.

Van Inwagen, Peter (2002). *Metaphysics*. Cambridge, MA.: Westview Press.

Vetter, Barbara (2011). Recent work: Modality without possible worlds. *Analysis*, 71(4), 742-754.

Von Wachter, Daniel (2004). The Ontological Turn Misunderstood: How to Misunderstand David Armstrong's Theory of Possibility. *Metaphysica*, 5, 105-114.

White, Stephen L. (2010). The Property Dualism Argument. *The Waning of Materialism*, Robert C. Koon and George Bealer, eds. Oxford: Oxford University Press, 89-114.