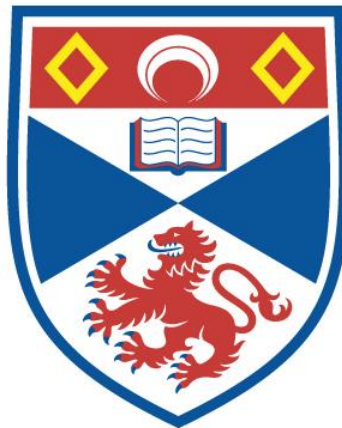


**THE AGENTIAL FORK: THE HIDDEN CONSEQUENCES
OF AGENCY FOR PLENITUDE IN DAVID LEWIS'
THESIS OF GENUINE MODAL REALISM**

MARC WILLIAM COLE

**A Thesis Submitted for the Degree of MPhil
at the
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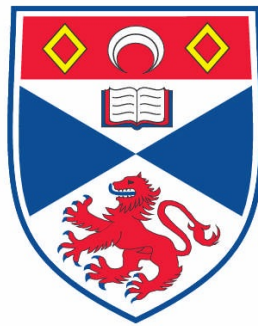
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The Agential Fork: The Hidden Consequences of
Agency for Plenitude in David Lewis' Thesis of
Genuine Modal Realism

Marc William Cole



This thesis is submitted in partial fulfilment for the degree of MPhil
at the
University of St Andrews

Date of Submission: September 17th, 2014

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Abstract

In this dissertation, I argue that David Lewis' abductive argument for Genuine Modal Realism (GMR) has the unwelcome, and hidden, implication of being unable to accommodate agent causation theories of free will. This is because of his formulation of plenitude, which basically says that every way that a world or a part of a world could be is the way that some world, or part of some world is. This formulation tacitly assumes that chance and nomological principles are sufficient to account for everything that happens at worlds.

However, agent causation theories argue that free will is neither reducible to chance nor determined by physics. My argument recasts a fork argument made by Andrew Beedle. I proceed by arguing that chance-based principles evince an ontologically distinct kind of modality than agent causation principles. However, plenitude only accounts for the physics/chance-based kind of modality. There is no similar principle of plenitude that can be given for agential modality that does not collapse into the chance-based principle.

But even if such a principle could be found, it would violate the doctrine in GMR that claims worlds are causally isolated. If no agential plenitude principle can be found and there is agential modality, then plenitude fails. If there is no agency at our world, and Lewis' original formulation of plenitude is correct, then GMR implies no agency at any world.

This is the fork: If there is agency and GMR holds, then either plenitude fails, or isolation fails. But if there is no agency, and GMR holds, then there is no agency at any possible world.

The latter prong is too strong a claim for an abductive argument like GMR. The former proves that GMR cannot accommodate agent-causation theories. GMR loses its neutrality either way, to its detriment.

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Chapter 1: Introduction

David Lewis' abductive argument for genuine modal realism (GMR), to my mind, offers, *inter alia*, the most complete theory of modality in contemporary philosophy, and is itself one of the most complete theories in the history of philosophy in terms of its scope. It is also one of the most widely rejected views. Nevertheless, the reason it remains is because Lewis has offered impressive and powerful argumentation on its behalf.

That being said, I think GMR suffers from a hidden and most unwelcome implication. As the theory stands, GMR implies that--at least according to one attractive group of theories about the nature of human agency--there are no agents at any possible world. ('Agency' here is akin to 'free will.' But I prefer the term agency for reasons that are reviewed later.) The group of theories I am referring to is the agent causation theories.

This is so because of Lewis formulation of plenitude (see Section 2.4). Plenitude basically expresses that: "...absolutely *every* way that a world could possibly be is a way that some world *is*...[and]...every way that a part of a world could possibly be is a way that some part of some world is" (Lewis, 1986d, p. 2). What I am going to argue is that plenitude tacitly assumes that chance and nomological principles of a world are jointly sufficient to account for everything that happens at a world.

However, there are many theories of agency that say free will is neither reducible to chance nor determined by physics; that free will, which often evinces reason, is a causal force in its own right. Can such theories be reconciled with GMR? They cannot, I argue. Reason and worldly processes (physics and chance) are fundamentally different

kinds of causal forces. If they are fundamentally different kinds of causal forces, then they evince fundamentally different kinds of modalities. But GMR only expresses one kind of modality, the world-based one. Therefore, GMR should either abandon free will altogether, or find another principle of plenitude to express it. However, as I shall argue both of these paths lead to serious consequences for GMR. Here are the claims I am examining in this dissertation:

(1) According to many theories of agency (free will), agential actions are of a qualitatively different kind of modality than chance-based modality.

(2) But plenitude in GMR only accounts for “chance-based” modality.

(3) No similar principle of plenitude can be given for agential modality that does not collapse into the chance-based plenitude principle.

(4) But even if such a principle could be found, it would violate isolation (the doctrine that the worlds are spatiotemporally and causally isolated) because such a principle implies transworld causation.

(5) If no agential plenitude principle can be found AND there is agential modality, then plenitude fails or at least is not guaranteed (which is the same as failure for GMR).

(6) If there is no such thing as agency at our world, and Lewis’ original formulation of plenitude is correct, then GMR implies no agency at any world; necessarily, there is no agency (from (2)).

(Conclusion) If there is agency and GMR holds, then either plenitude fails (or at least is not guaranteed, which amounts to failure for GMR), or isolation fails (from (4), (5)). But if there is no agency, and GMR holds, then there is no agency at any possible world (from (2), (3), (6)).

I should say here that the terminology in the above claims shifts to reflect the discussion and terms introduced in this dissertation (see Section 3.6). But this gives the rough shape of my dissertation. The dissertation proceeds in the following way.

Chapter two offers an extended overview of Lewis' argument for GMR, focusing primarily on his book "*On the Plurality of Worlds* (1986d)." Through discussing GMR, I also introduce key terms and concepts that are used throughout the dissertation. Key terms and concepts include *isolation*, *plenitude*, *actuality*, *representation*, *duplication*, *counterparts*, and the *qualitative/de re distinction*.

Chapter three introduces what seems strange ethically in Lewis' theory. I begin by introducing a scenario which evinces the strangeness of agency and plenitude. Following this, I look at a number of ways philosophers have tried to cash out this strangeness. In broad terms, the arguments try to show that GMR implies either some kind of fatalism, or that nothing one does matters, or that our desires about our world simultaneously implicate us in not-so-nice desires about other worlds. Andrew Beedle, in particular, introduces a fork argument that says that either GMR implies modal fatalism, or it requires our desires for good at our world to be *eo ipso* tinged by desires for evil at other worlds. I show that his argument in particular, and others like it, do not work. The intuition is correct: that GMR would require us to rethink ourselves as ethical agents. But their arguments do not succeed. Basically, I say that they should have argued that because free will is of a fundamentally different causal order than "worldly" forces, this implies two fundamentally different kinds of modality, and that GMR only accounts for one.

Chapter four introduces the sense of free will I work with. Basically, I use agent-causation theories of free will that say that agency is a causal force that is neither causally

determined, nor “chancy” or random. At that point, I stop using “free will” and just stick with “agency” and its derivatives. I discuss two other kinds of views about free will in this chapter. First, the hard determinist thinks there is no free will. Second, a soft determinist is one who think determinism and free will are compatible; the compatibilists. I am agnostic on whether a soft determinist view could be amenable to some kind of agent causation view. I will assume they are not since an agent causationist does not think that chance, physics and initial conditions of the universe are the only causal forces.¹

This is a harmless stipulation since I do not need to settle the debates between these three families of views of free will. My task is to show that if agent causation views are a plausible view, then they imply a whole other kind of modality. If they employ a whole other kind of modality, then GMR must account for this in some way, whether it be arguing against agent causation views, or incorporating agent causation into GMR (I do not think this latter method is possible, as will be discussed).

To spell out the kinds of modalities in play, chance-based (or worldly) and agential, I employ a device from ancient Greek philosophy called the *tuche/techne* antithesis. In very general terms, this antithesis can be explained this way. *Tuche* is the Greek word for chance, or luck; it can be understood as the “world left to itself.” A *techne* can be translated as art, craft, science, skill. A *techne* always evinces reason. A skillful application of a *techne* can mitigate, or possibly eliminate, the effects of *tuche*. The important point about this distinction is that these two sides are defined against each other and one cannot be reduced to the other; they are not compatible. I think this Greek view offers resources to cash out the agent causationist claim that reason is a causal force

¹ Of course, parts of the world are causally effective, but it is often assumed that knowing initial conditions and/or physics will give the relevant explanations for them.

along with the world. I also explain in this chapter how modality for each side of the antithesis would work. This discussion gets me claim (1) above.

Chapter 5 defends (2) through (Conclusion). First, I argue that Lewis' formulation of plenitude only captures "world-based," or *tuche*-based modality. I also explain there can be no formulation of plenitude for agents that does not collapse into Lewis' original formulation. The basic idea is this. Imagine a two-world plurality of worlds with one agent at each world: Hank and Harold. Suppose two actions can be selected, jumping and whistling. Both of these are *technes*. Hank reasons through his choice and decides to whistle. Harold reasons through his choice and decides to... whistle? He cannot; according to plenitude, he must jump. Unpacking such stories leads to my point that Lewis' formulation of plenitude only expresses *tuche*-based modality and plenitude could only express *tuche*-based possibilities (3).

But suppose such an agential principle of plenitude could be found that preserves agency in the agent causation sense. This would imply a transworld causal force, thus isolation would fail (4). I argue for this by explaining what I call the transworld butterfly effect. An agent's choice would have causal implications for other worlds, even ones without agents.

But suppose Lewis or a genuine modal realist would want to keep agential causation even though it is not "covered by" plenitude (5). Well, that is just the point. Agent causation would mean that plenitude just does not hold since agents might choose to do the same things, like Hank and Harold both choosing to whistle, though both had jumping in their modal profiles. However, it is hard to imagine the motivation for GMR without plenitude.

So this gets us to the other prong of the fork: if Lewis or a Lewisian insists the Lewis' formulation of plenitude is correct and therefore abandons agency, then necessarily, there is no agency at any world (6). This gets (Conclusion): If there is agency and GMR holds, then plenitude fails or is not guaranteed, and isolation fails (from (4), (5)). But if there is no agency, then necessarily there is no agency at any possible world (from (2), (3), (6)).

The problem, though, for the Lewisian is that GMR is the wrong kind of argument to settle the agency debate. For one thing, it insists on isolation. This means there is no empirical way to argue for plenitude; there are only philosophical ways. And since agency theories are not obviously incoherent, philosophical discussions about it cannot be ruled out. They certainly cannot be ruled out for all possible worlds. This would be true even if it were proven that we are not agents in the agent causation sense at our world. For another thing, part of what Lewis had going for GMR was that it was supposedly flexible enough to cover all modality. Since it is not, GMR has to take a decisive and far-reaching position on agency. In effect, GMR loses its flexibility and objectivity, and there is no way to determine in any worthwhile way why we should accept POR.

Before starting, there are some terminological points I would like to address.

1.1 Assumptions and Definitions

Here are some explanations of how I will be using three sets of key terms in this discussion.

First, it will seem that I sometimes use terms like “chance,” “chance process,” “physics,” “nomological principles,” and any derivatives interchangeably. The obvious problem with such an approach is that chance and physics are often seen as being

diametrically opposed, at least in certain senses of the terms. Like thinking of chance as random and physics as rule based. However, there are other senses in which they are complementary.² For example, one might think that our universe is this way, but it could have been a different way. The chance process "selected" the way our universe came to be, including our nomological principles, or physics. With regard to GMR, Lewis (1986d) says that "[d]ifferent worlds have all different outcomes of the chance process" (p. 129). In this sense, then, chance and physics are complementary because it is the chance process that "selects" the physics of a given world.

The second sense in which chance and physics can be considered complementary is that jointly, they can express what the world does when left to itself. Even if the world is deterministic, chance might still play a role. Consider this quote from Douglas Futuyma (2005): "scientists use chance...to mean that when physical causes [physics, nomological principles] can result in any of several outcomes, we cannot predict what the outcome will be in any particular case" (p. 225).³ So what unifies my usage of chance and physics is the initial conditions of the universe that could have been different on the one hand, and the role chance plays in the world on the other.⁴

I also, in many places in this dissertation, seem to jump from causation to explanation, and from explanation to causation. This is because, with Lewis (1986c), I

² There is, of course, a lot of debate in physics and philosophy on these points and I am not settling such issues in this dissertation. Moreover, there is good reason to think that chance and randomness are distinct concepts. For discussion on this, see: Antony Eagle (2014).

³ Eagle (2014) uses this quote to set up how commonplace it is in science to associate chance and randomness together. However, whether or not chance and randomness come apart does not play a role in my dissertation. As interesting as it is, I set it to one side and commend the interested reader to Eagle's discussion.

⁴ Even if chance does not operate in the world, the world might have been different. Our world was, in this sense, an outcome of the chance process.

am assuming that any kind of explanation is causal in nature.⁵ When I jump from one to another, this is what is in view. And I make these jumps only when discussing explanations of worlds and/or parts of worlds.⁶

Finally, Lewis (1986d) discusses a number of modalities that GMR is flexible enough accommodate and provide reductive accounts for, such as nomological, epistemic, doxastic, etc. (pp. 5-20; 27-50). However, I write as if there are only two kinds of modality: world-based modality and agent-based modality. I do this for the sake of ease of reading. Lewis considers these kinds of modalities as unified by some story about each world's initial conditions and the chance process. For this reason, I think I am fine using this stylistic choice.

Any other terms and assumptions I use are brought up as needed. I turn now to Lewis' theory.

⁵ See also Bradford Skow (forthcoming). Lewis (1986d) elsewhere says: "Explanations give causal or nomological information" (p. 133).

⁶ 'Parts of worlds' includes persons, whether or not they are agents.

Chapter 2: David Lewis' Theory of GMR

This chapter discusses the thesis of Lewis' GMR, focusing primarily on those themes that appear repeatedly throughout the dissertation. I italicize key concepts throughout the chapter.

According to Lewis (1986d), GMR is “the thesis that the world we are part of is but one of a plurality of worlds, and that we who inhabit this world are only a few out of all the inhabitants of all the worlds” (p. vii).

Let us take our world. What all is included under the verb “inhabit?” Lewis (1986d) says that our world:

“...is a very inclusive thing. Every stick and every stone you have ever seen is part of it. And so are you and I. And so are the planet Earth, the solar system, the entire Milky Way, the remote galaxies we see through telescopes, and (if there are such things) all the bits of empty space between the stars and galaxies...Likewise the world is inclusive in time. No long-gone ancient Romans, no long-gone pterodactyls, no long-gone primordial clouds of plasma are too far in the past, nor are the dead dark stars too far in the future, to be part of this same world...[N]othing is so alien in kind as not to be part of our world, provided only that it does exist at some distance and direction from here, or at some time before or after or simultaneous with now” (p. 1).

So our world just is the mereological sum of its spatiotemporally and/or causally related parts (Lewis, 1986d, p. 69). Our world is not “alone,” though. There are countless other worlds, spatiotemporally and causally isolated from this world (see Section 2.3). The

plurality of worlds just is the mereological sum of all the worlds (and their parts) (see Section 2.7).

This is the theory in broad strokes. Of course, many questions immediately spring up such as “how can we know about the worlds if they are spatiotemporally and causally isolated?” But a more fundamental question is “Why believe in a plurality of worlds” (Lewis, 1986d, p. 3)? Lewis (1986d) answers: “Because the hypothesis is serviceable, and that is a reason to think that it is true” (p. 3).

How is it serviceable? And can one get these same benefits without “concrete” possible worlds? There are many ways the hypothesis of a plurality of worlds is serviceable. Historically speaking, the analysis of necessity as truth across all possible worlds started as a helpful heuristic in many areas of philosophy. Then, philosophers started offering “a great many more analyses that make reference to possible worlds, or to possible individuals that inhabit possible worlds” (Lewis, 1986d, p. 3). As talk of possible worlds progressed, Lewis (1986d) continues, the heuristic offered a great deal of clarity in many areas of philosophical inquiry, including but not limited to: philosophy of mind, philosophy of logic, philosophy of language, metaphysics, and philosophy of science (p. 3).

And as Lewis (1986d) observes, the “most straightforward way to gain honest title” to the “theoretical benefits that talk of *possibilia* brings” is to “accept such talk as the literal truth” (p. 4). Many kinds of theories do this by positing that the plurality of worlds are linguistic constructs, or pictorial constructs, or some other kind of construct that differ in fundamental ways from the “real” world, but are nevertheless real entities.⁷

⁷ Combinatorialism is sometimes discussed when talk of *possibilia* comes up. Anyway, for overviews of and discussions about GMR and alternatives to GMR, I recommend: (Melia, 2008), (Sider, 2003), and

These theories represent the attempts at real possible worlds without them also being "concrete."⁸ There are well known issues with primitive modality in these theories, in addition to certain theoretical problems.⁹ With regard to primitive modality, none of these ersatz theories can characterize modality without modal language. Most ersatzists freely confess this point as one of the ongoing problems (see for example, (Melia, 2008)).¹⁰

Lewis, however, developed an "even more literal" version of this literal truth approach. For Lewis, the plurality of worlds contains worlds and parts just as "real" as our own world.

One benefit his "literal truth" approach affords is that it gives a reductive account of modality. Thus, Lewis (1986d) argues that the plurality of worlds affords philosophy "the wherewithal to reduce the diversity of notions we must accept as primitive, and thereby to improve the unity and economy of the theory that is our professional concern--total theory, the whole of what we take to be true" (p. 4). Lewis (1986d) compares it to what set theory did for mathematics; "we have only to believe in the vast hierarchy of sets, and there we find entities suited to meet the needs of all the branches of mathematics" (p. 3). Hilbert called this a paradise for mathematicians; Lewis (1986d) offers the realms of logical space to philosophers as paradise (p. 4). But paradise has a price.

The cost? We get theoretical unity, economy of theory, a serviceable theory, and pay for it in ontological commitment. Lewis thinks the price is right.

(Divers, 2009).

⁸ I am using 'concrete' here as a shortcut to mean "just as real as our world." Really, though, it is notoriously difficult to spell out the concrete/abstract distinction. Lewis (1986d) recognizes this very well and also does not prefer such terminology (pp. 81-85).

⁹ Lewis (1986d) discusses these in detail (pp. 136-191).

¹⁰ But they claim that while they must (at least as of now) accept primitive modality, at least they do not have the heavy ontological commitments of the holder of GMR.

But Lewis (1986d) allows that the price may be higher than it appears; for example "[m]aybe the price is higher than it seems, because modal realism has unacceptable hidden implications" (p. 4). This is where the dialectic of this dissertation is grounded. I am arguing for hidden metaphysical implications that make the cost far too high.

In summary, he thinks the reasons given are good reasons to think that the theory is true. But he does not, however, think they are conclusive (Lewis, 1986d, p. 4). Thus, he is making an abductive argument for GMR; he is making an appeal to the best explanation given what we have and know. So "why believe in a plurality of worlds?" Lewis (1986d) answers: "Because the hypothesis is serviceable, and that is a reason to think that it is true" (p. 3). The fact that Lewis offers an abductive argument affects how one should argue against it, if one is so inclined (and I am). This could be done in a few ways. One can find another theory that best accounts for our current data while providing the unity and economy of theory. Or, as mentioned previously, one can find hidden costs of the argument, which is the path I am taking.

The rest of this chapter explains his analysis of GMR, emphasizing those themes that prominently feature in my own analysis.

2.1 Quantification, Accessibility Relations and Counterpart Relations

Lewis begins with the plurality of worlds; that is, the content of *logical space*. *Logical space* is synonymous with the whole of the plurality of worlds; it is "the totality of the worlds in all their glory" (Lewis, 1986d, p. 73). As such, any true proposition is true in virtue of a world or a part of a world.¹¹

¹¹ For more information, see Section 2.4.

Probably the most (in)famous applications of GMR is to modality.¹² Modal claims are true in virtue of worlds and/or their parts. Consider the following modal statements.

The first two are taken from Lewis (1986d, pp. 5-9) and the third is based on Lewis:

- a.) Possibly, there are blue swans.
- b.) Necessarily, friction produces heat.
- c.) I could have become a medical doctor, but instead I chose philosophy.

Before discussing the genuine modal realist analysis of these claims, it merits mention that there are many well-known problems associated with analysis of modal claims. Here is a sampling. In virtue of what are claims like a.) and c.) true or false? It would seem there are no blue swans at our world, but does it follow that blue swans are not possible? It would seem not. Such claims are intuitively “true.” But how so, given the lack of blue swans? Again, c.) looks like a perfectly true statement, but how can it be analyzed? I have not become a medical doctor; so what does it mean to say I could have? *Mutatis mutandis* for any other such claims: there could have been 4 more trucks on Earth than there actually are, etc.

Another well-known problem with modal claims is how to understand those that bear on necessity and truth. If b.) is true, is it necessarily true? How should we understand the truth of the laws of physics and necessity?¹³

One of the great benefits of GMR is that it offers the resources to analyze such modal claims. The idea is that necessity and possibility claims are analyzed by the plurality of worlds. To show how, I begin with Lewis’ basic analysis of possibility

¹² There are other areas of philosophy for which GMR provides wonderful resources. For a good overview see Lewis (1986d, pp. 5-68). However, since I am primarily concerned with modality, I will keep my examples to modal claims.

¹³ Relatedly, mathematics presents necessarily true formulations. What is the relationship between mathematical truths and necessity?

(1986d):

“Presumably, whatever it may mean to call a world actual..., it had better turn out that the world we are part of is the actual world. What actually is the case, as we say, is what goes on here. That is one possible way for a world to be. Other worlds are other, that is *unactualised*, possibilities. If there are many worlds, and every way that a world could possibly be is a way that some world is, then whenever such-and-such might be the case, there is some world at which such-and-such is the case. Conversely, since it is safe to say that no world is any way that a world could not possibly be, whenever there is some world at which such-and-such is the case, then it might be that such-and-such is the case. So modality turns into quantification: possibly there are blue swans iff, for some world W, at W there are blue swans” (p. 5).

I discuss Lewis’ analysis of actuality in section 2.5. Lewis’ point applies to worlds and parts of worlds. Suppose there was no such thing as a red car. One might say that there *could have been* a red car. Because this counterfactual is a possibility claim, it can be analyzed as something like: there could have been red cars if at some world X, there are red cars.¹⁴ Thus, as Lewis said, modal claims turn into quantification.

Necessity claims work in a similar way. Let us look at three kinds necessity claims: nomological, historical, and logical.¹⁵ Here are three such claims, based heavily on Lewis (1986d, pp. 7-9):

(1) Necessarily, friction produces heat.

(2) It is historically necessary that I have partially completed my dissertation.

¹⁴ For more on counterfactuals, see Lewis (1973).

¹⁵ Lewis (1986d) mentions a few more, including epistemic and deontic (p. 8). Such kinds of modalities will be handled in a similar way.

(3) Necessarily, $2+2=4$.

Lewis (1986d) analyzes (1) as: "...at every world that obeys the laws of our world, friction produces heat. It is contingent which world is ours; hence what are the laws of our world;...hence what is true throughout these worlds, i.e., what is nomologically necessary" (p. 7). Lewis (1986d) analyzes (2) as: "at every world that perfectly matches ours up to now, and diverges only later if ever, [my dissertation] is at least partly written" (p. 7). Mathematical truths, such as (3), are analyzed as true at all possible worlds. That is, $2+2=4$ is true at every world in the plurality.

This, in broad strokes, is how possibility and necessity are accounted for in possible-world talk. Some of the great strengths of this analysis are these: it bypasses the well-known complications of the modal operators being insufficient to express the variety of modal claims, and it offers a reductive account of modality. That is, modality is not primitive, but analyzed via other worlds. For more information, see Lewis (1986d, pp. 5-20).

The next thing to discuss is how quantification over other worlds and their parts is accomplished. This is done via *accessibility relations* and *counterpart relations* respectively.

Quantification over worlds is largely restricted by an *accessibility* relation. An accessibility relation restricts quantification from the standpoint of a given world (Lewis, 1986d, p. 7). Consider b). "Necessarily, friction produces heat." This is a nomologically true statement about our world. But as Lewis (1986d) also says, it is not unrestrictedly necessary; that is, other worlds may not have the same laws of physics we do (p. 7). "Necessarily," then, quantifies over those worlds that have the same laws of physics we

do. The *accessibility relation* is determined by our laws of physics, specifically the law that friction produces heat.

Lewis (1986d): "As quantification over possible worlds is commonly restricted by accessibility relations, so quantification over possible individuals [parts of worlds] is commonly restricted by *counterpart relations*" (p. 8) (emphasis mine). Let's take Sydney, Australia. Suppose I said, "Sydney could have been located 27 centimeters to the right of where it is now." This is analyzable as something like "there is a world W, and there is an individual x in W, such that x is a counterpart of Sydney, and x is located 27 centimeters to the right of where Sydney is actually located."¹⁶ The relevant *counterpart* of Sydney will be quantified over across worlds based on similarity in origins, "or in its location...or in the arrangement and nature of its parts, or in the role it plays in the life of a nation or a discipline (Lewis, 1986d, p. 8).¹⁷

One might wonder why Lewis cannot say that *Sydney itself* is located 27 centimeters to the right at another world. This is because ordinary objects are world-bound objects; in fact, an ordinary object just is a world-bound object. This means that any (ordinary) object can only exist at one world. So "Sydney itself" is "bound to" our world only.¹⁸ This is what makes counterpart theory necessary.

To sum up, I quote Lewis (1986d): "Modality *de re*, the potentiality and essence of things, is quantification over possible individuals" (p. 8). And this quantification over

¹⁶ Thank you to Derek Ball for help with this formulation.

¹⁷ Note that accessibility relations and counterpart relations are similar in that both emphasize external properties and relations. But there is another kind of counterpart that emphasizes intrinsic properties and relations called duplicates (Lewis, 1986d, pp. 50-69; 70-71). Since I am not concerned with Lewis' use of quantification, I set this to one side though it is interesting as well. For more discussion on persons and counterparts, see Lewis (1983c, pp. 47-54).

¹⁸ This is a consequence of Lewis' doctrine of isolation (see Section 2.3). There are "non-ordinary" objects, which will be discussed later. These are transworld mereological sums (as distinct from transworld individuals, which do not exist on Lewis' paradigm).

possible individuals is done via counterpart relations. Lewis' (1986d) more complete analysis of these themes can be found in the section of his book on properties (pp. 50-69).

The upshot of this section is that modality, via accessibility relations and counterpart relations, “turns into quantification” (Lewis, 1986d, p. 5). Modal claims “are about” other worlds and their parts and have as their truthmakers points in logical space.

2.2 Representation *De Re*

Representation *de re* is up next. While Lewis' use of representation itself does not play a prominent role in this dissertation, it still merits a brief discussion because it aids in understanding GMR generally. More specifically, it also helps in understanding counterpart theory, in clarifying how modality is quantification (see Section 2.1), and understanding the qualitative/*de re* distinction (see Section 2.6).

To begin, it is worth making explicit that Lewis (1986d) rejects the thesis that worlds overlap (pp. 69-71) (see section 2.3 of this chapter); each world is spatiotemporally and causally isolated from all the others. One consequence of this is that each thing is part of one world only. That is, I myself belong to this world and no other. The specific bag of crisps next to me exists at this world and no other. And so on for everything at our world. In other words, every ordinary *thing*, or individual, is world-bound.¹⁹ This has an important consequence for quantification in modal claims. Consider:

(1) I might have died today.

Suppose I do not die today. Then (1) is made true by a world according to which one of my counterpart dies. But according to what I just said, I do not die at another world because I myself am world-bound here. A counterpart dies at another world.

¹⁹ The last section mentioned “non-ordinary” objects, which are transworld mereological sums. These are discussed more in the next section.

One of the most well-known arguments along these lines against GMR comes from Saul Kripke (1981):

“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” (p. 45fn13).

Before discussing Kripke’s problem with GMR in greater detail, I would like to say what exactly representation *de re* is. According to Lewis (1986d), the winning-Humphrey is at another world, but is “very like [our] Humphrey in his origins, in his intrinsic character, or in his historical role” (p. 194). In short, the other Humphrey is one of our Humphrey’s counterparts. As such, the world which contains winning-Humphrey “represents *de re*” that our Humphrey won (the terminology is from Lewis (1986d, p. 194). That is, the other “Humphrey” represents ours in victory. Lewis (1986d) says: “That is how it is that...our Humphrey...wins according to the other world. This is counterpart theory, the answer I myself favour to the question how a world represents *de re*” (p. 194).²⁰ So, in sum, what makes it true that our Humphrey *could have won* is his counterpart that does win (Lewis, 1986d, p. 234). What makes it true that the other-worldly counterpart *could have lost* is our Humphrey. The statement that I *could have* died today is made true by a counterpart of mine who does in fact die today; this

²⁰ Following Lewis (1986d, pp. 194-195fn191), I too will place the following reading suggestions in a footnote: Lewis (1983b), Lewis (1983c), and David Kaplan (1979). But I also recommend: Lewis (1973, pp. 39-43), and Lewis (1983d).

counterpart represents my death. Again, modality is quantification over worlds and their parts.

Note, too, that because Lewis argues for world-bound individuals, representation *de re* is a key feature of GMR. It could not be our Humphrey himself who won; he lost. One of his counterparts must represent him as winning. I now return to Kripke's objection.

The basic intuition in Kripke's objection is that "*de re* modality has to do with the *res* itself, not some imitation or substitute or counterpart" (Lewis, 1986d, p. 195). That is, it is not our Humphrey himself who wins, but a counterpart; but modality is supposed to be about Humphrey himself. Lewis' (1986d) response is basically that this problem if such it is, is not unique to GMR (pp. 192-198). That is, even ersatzers of whatever stripe have this same so-called problem: with them, it is a matter of finding the sentences in a worldmaking language that represent Humphrey's victory, or a pictorial ersatzer would have to do it via some kind of picture. Even those who accept overlap and transworld individuals that exist at many worlds "at once" do not escape a certain version of the Humphrey objection.²¹ Probably, the Humphrey of our world could care less if he, even he himself, won at another world; he still lost here. This is more or less the gist of Lewis' point about the Humphrey objection.

So any thing is a world-bound thing.²² 'Thing' here is used very broadly. It can refer to cars, electromagnetic fields, and even the laws of physics. The ways they could have been different are *represented* by their counterparts at other worlds. In fact, because

²¹ However, such views take on serious metaphysical problems. See Lewis (1986d, pp. 198-220). Nevertheless, there are defenders of GMR with overlap. For example, see Kris McDaniel (2004).

²² Any ordinary thing. Again, there are transworld mereological sums, but these are not anything interesting on Lewis' view.

particular things are world-bound, it makes it necessary that what could have been must be represented by other worlds. The world-bound thing itself is present only at one world. So discussing other possibilities winds up being quantification over other worlds, in which are represented the various ways our world could have been.

Representation *de re* also assists in understanding the qualitative/*de re* distinction (Section 2.6). The basic idea behind the qualitative/*de re* distinction is that *de re* claims pick out particular individuals. Qualitative claims are general.

I now turn to Lewis' thesis of isolation.

2.3 Isolation

In this section, I discuss Lewis' thesis of isolation and how it fits into the story so far. The first thing is to make explicit the difference between mereological sums and spatiotemporally and causally connected individuals. The latter are always world-bound and do not overlap with other worlds. The former are individuals of another kind. Lewis (1986d) is an unrestricted compositionalist (p. 211). That means that any combination of anything comprises a whole. Not only do the parts of my body comprise me, but there is also a whole comprised of one of Saturn's rings, a penny, and fourteen clowns. It is just that we usually do not pay attention to such sums because they are uninteresting. Similarly, any combination of anything across the plurality also comprises a mereological sum, a whole. If we take the set of me and all my counterparts, this is mereological transworld sum. But this whole does not comprise anything interesting; in fact, it has spatiotemporally and causally isolated parts.

In a similar way, the mereological sum of worlds do not comprise a grand world; rather the plurality of worlds has many causally and spatiotemporally isolated parts. In

this section, I discuss the thesis of isolation in more detail. That is, the demarcation point “between” worlds is discussed.

The world could have been different in uncountable ways. To name a few: I could have purchased a car today; ten more mice could have died today than actually did; the laws of physics might have been different; there may have been billions more (or fewer) people than there are; there may have been absolutely no one. This world is just one possible way a world could have been.

Lewis (1986d) asks: "Are there other worlds that are other ways" (p. 2)? He answers "yes" to this question. So just as our world is very inclusive, so there are countless other inclusive worlds. That is, just as this world has parts in time and space, so to do other worlds have other-worldly parts in other-worldly time and space. These worlds, as Lewis (1986d) says, are something like remote planets, except that most of them are far bigger than planets [such as our universe], and they are not remote (p. 2). But neither are they close by; they have no spatial connection with our world at all. Neither are they far in the past, far in the future, or simultaneous with our world; there is no "temporal distance" between our world and the others (Lewis, 1986d, p. 2). The worlds are spatiotemporally *isolated*.

Also, nothing that happens at one world causes anything to happen at another; they are causally *isolated*. Lewis (1986d) says that because the worlds are causally *isolated*, "nothing outside a world ever makes a world; and nothing inside makes the whole of a world, for that would be an impossible kind of self-causation" (p. 3).²³ Given

²³ What Lewis (1986d) says immediately following this bears mentioning: "We make languages and concepts and descriptions and imaginary representations that apply to worlds. We make stipulations that select some worlds rather than others for our attention. Some of us even make assertions to the effect that other worlds exist. But none of these things we make are the worlds themselves" (p. 3).

isolation, worlds also do not overlap (Lewis, 1986d, pp. 2; 198-209). That they do not overlap means that the worlds do not have any parts in common; for example, there are no two (or more) worlds that share this particular computer I am using as a part.²⁴

Possible worlds are comprised of possible individuals or parts. Lewis (1986d):

“If two things are parts of the same world, I call them *worldmates*. A world is the mereological sum of all the possible individuals that are parts of it, and so are worldmates of one another. It is a maximal sum: anything that is a worldmate of any part of it is itself a part” (p. 69).

So, continues Lewis (1986d), “for any two possible individuals, if every particular part of one is spatiotemporally related to every particular part of the other that is wholly distinct from it, then the two are worldmates” (p. 71). More roughly, if things are spatiotemporally related, they are worldmates.²⁵ Since my counterparts and I are not spatiotemporally related given isolation, we are not worldmates.

(A brief note on counterparts. I have been discussing counterparts as if each of my counterparts is located at some other world, isolated from my own world. Implied in this usage is the thought that my counterparts are a lot like me in terms of match of origins, etc. However, Lewis (1986d) also says that, "under an extraordinarily generous counterpart relation," my human worldmates are my counterparts too (p. 232). So a twelfth-century peasant represents *de re* the possibility that I could have been a twelfth-century peasant. The extraordinarily generous counterpart relation is just one "that

²⁴ Lewis (1986d) allows for the possible exception of immanent universals (p. 2). Moreover, he discusses “big worlds,” which contain many world-like parts (pp. 71-73). He insists that a big world does not contain many worlds as parts, but is itself a world. Finally, for a more complete story of why Lewis rejects overlap, I refer the interested reader to Lewis (1986d, pp. 198-209).

²⁵ Lewis also extends his principle to worlds with different physics. Objects are worldmates at these worlds if they are analogically spatiotemporally related (Lewis, 1986d, p. 78). Lewis (1986d) finds analogically spatiotemporal relations a “messy idea” (p. 76). Anyway, I have no quibble with him here on world demarcation.

demands nothing more of counterparts than that they be things of the same kind" (Lewis, 1986d, p. 232). So not all counterparts are spatiotemporally and causally isolated from each other.)

2.4 Plenitude

There is a *plenitude* of worlds; that is, the worlds and their parts are so many and so varied that

"(1) absolutely *every* way that a world could possibly be is a way that some world is, and

(2) absolutely every way that a part of a world could possibly be is a way that some part of some world is" (Lewis, 1986d, p. 86).

A great deal in this dissertation hangs on Lewis' formulation of *plenitude*, so it merits a more in-depth treatment. Lewis (1986d) says that the above formulation of *plenitude* "*seems* to mean that the worlds are abundant and logical space is somehow complete. There are no gaps in logical space; no vacancies where a world might have been, but isn't" (p. 86). But do (1) and (2) properly express *plenitude*? Lewis thinks they do not.

The reason Lewis (1986d) gives is that, given GMR, "it becomes advantageous to identify 'ways a world could possibly be' with worlds themselves. Why distinguish two closely corresponding entities: a world, and also the maximally specific way that world is?" (p. 86). But, as Peter van Inwagen pointed out to Lewis (1986d), this makes (1) and (2) without content (p. 86). (1) says only that "every world is identical to some world. That would be true even if there were only seventeen worlds, or one, or none. It says nothing at all about abundance or completeness. Likewise for (2)" (Lewis, 1986d, p. 86).

Lewis (1986d) attempts a few ways to save (1) and (2), but concludes that they "cannot be salvaged as principles of plenitude. Let them go trivial. Then we need a new way to say what (1) and (2) seemed to say: that there are possibilities enough, and no gaps in logical space" (p. 87).

Lewis (1986d) replaces (1) and (2) with the *principle of recombination* (POR) (p. 87). At its heart is "the Humean denial of necessary connections between distinct existences" (Lewis, 1986d, p. 87).²⁶ As a first blush, POR states that

"anything can coexist with anything else, at least provided they occupy distinct spatiotemporal positions. Likewise, anything can fail to coexist with anything else. Thus if there could be a dragon, and there could be a unicorn, but there couldn't be a dragon and a unicorn side by side, that would be an unacceptable gap in logical space, a failure of plenitude" (Lewis, 1986d, p. 88).

But there are four reasons why this formulation of POR is unacceptable to Lewis, and one reason why it is unacceptable to me. I will take these reasons in the following order. First, Lewis rejects *overlap*. Second, Lewis says this formulation of POR implies worlds with more things than there is space to put them. My problem with this formulation of POR is that it seems blatantly modal. Lewis' third and fourth problems are related, and they deal with nomological laws and alien properties. I take these in turn, but first I should mention that the proviso 'at least provided they occupy distinct spatiotemporal positions' is dropped until the final formulation of POR for ease of reading.

²⁶ Actually, Lewis (1986e) characterizes much of his work from this period as "a prolonged campaign on behalf of the thesis [he] call[s] "Humean Supervenience"" (p. ix). Lewis (1986e) characterizes the thesis as "the doctrine that all there is to the world is a vast mosaic of local matters of particular fact, just one little thing and then another" (p. ix). Lewis (1994) elsewhere characterizes it as "the thesis that the whole truth about a world like ours supervenes on the spatiotemporal distribution of local qualities" (p. 473). For an early defense of this thesis see: Lewis (1986g) and (1986f). For a powerful critique of this thesis, see: Peter Menzies (1989). For Lewis' excellent response, see: Lewis (1994).

Because of Lewis' position on *overlap*, it cannot be the case that specifically I from this world, and a specific dragon from a second world, exist at some third world. Each thing is a part of only one world; I am part of my world only and the dragon is part of her world only.

Lewis' (1986d) would usually invoke counterparts here, but counterpart relations do not really help (p. 88). If they did, POR might be re-stated as: "a counterpart of anything can coexist with a counterpart of anything else" (Lewis, 1986d, p. 88). The problem is that counterparts are based largely on extrinsic relations; and in particular, match of origins (Lewis, 1986d, p. 88). But *intrinsic* properties seem the most relevant when discussing me myself and *that* dragon. Lewis (1986d) says,

"[i]t might happen (at least under some resolutions of the vagueness of counterpart relations) that nothing could be a counterpart of the dragon unless a large part of its surrounding world fairly well matched the dragon's world; and likewise that nothing could be a counterpart of [me] unless a large part of its surrounding world fairly well matched [my] world; and that no one world matches both the dragon's world and [my] world well enough; and therefore that there is no world where a counterpart of the dragon coexists with a counterpart of [me]" (p. 88).

So POR should be formulated to accommodate *duplicates*. Lewis (1986d) defines *duplicates* "in terms of the sharing of perfectly natural properties, [with] intrinsic properties as those that never differ between duplicates. That [leaves] it open that duplicates might differ extrinsically in their relation to their surroundings" (p. 89).

The second problem Lewis has with this formulation of POR is that there could be

any number of coexisting duplicates; even an infinite number. Additionally, any individual could have multiple duplicates of itself at another world, whether that be two, 28, or an infinite number. Are worlds big enough to hold very large numbers of duplicates? Lewis (1986d): "Should we keep the principle of recombination simple and unqualified, follow where it leads, and conclude that the possible size of spacetime is greater than we might have expected" (p. 89)?

Maybe. But Lewis (1986d) says that it would be "fishy if we begin with a principle that is meant to express plenitude about how spacetime might be occupied, and we find our principle transforming itself unexpectedly so as to yield consequences about the possible size of spacetime itself" (p. 89). For this reason, Lewis (1986d) adds the proviso of "'size and shape permitting.' The only limit on the extent to which a world can be filled with duplicates of possible individuals is that the parts of a world must be able to fit together within some possible size and shape of spacetime" (pp. 89-90).²⁷

POR, with these considerations, might read: "counterparts or duplicates of anything can coexist with counterparts or duplicates of anything, and counterparts and duplicates of anything can fail to coexist with counterparts or duplicates of anything, size and shape of spacetime permitting" (Lewis, 1986d, pp. 89-90).

My problem with the first formulation of POR is that Lewis' use of 'can' seems blatantly modal in nature, inviting charges of primitive modality. I think, however, it can be restated and that Lewis takes no damage at all.

Let's see what happens when 'can' is dropped and replaced by the verb 'coexist' or its negation. Using the verb 'coexist' effectively removes modal language from the

²⁷ This proviso also prevents any world from having more things that it can contain. See: Lewis (1986d, pp. 101-104).

formulation.

POR: “A counterpart or duplicate of anything coexists with a counterpart or duplicate of anything, and a counterpart or duplicate of anything fails to coexist with a counterpart or duplicate of anything size and shape of spacetime permitting.”

This is formulation of POR I employ through the dissertation.

Lewis’ remaining two points require consideration. First, the laws of nature at our world are not strictly necessary, given Lewis’ Humean view about laws and causation. Secondly, and relatedly, there are alien properties. The shared problem of both points is that POR seems based on this world’s nomological principles and properties. There are feasibly other worlds that have parts that are not combinations of parts of our world (rather, counterparts or duplicates of parts of our world), and worlds that do not have our nomological principles. “Thus,” says Lewis (1986d), “our principle of recombination falls short of capturing all the plenitude of possibilities” (p. 92). However, although recombination from parts of our world is not sufficient to cover alien properties or physics, the general idea behind POR can still be applied. Here is how.

An alien natural property, according to Lewis (1986d), is “one that is not instantiated by any part of this world, and that is not definable as a conjunctive or structural property build [sic] up from constituents that are all instantiated by parts of this world” (p. 91). One need only have a version of POR that applies the same theory to alien worlds. All combinations of alien properties are instantiated at their respective worlds, “in any arrangement permitted by shape and size” (Lewis, 1986d, p. 92).

Finally, I should mention something about impossible worlds. One might wonder

if plenitude requires a proviso “preventing” such worlds. I do not think he does. Lewis (1986d) reasonably claims that there are no impossible worlds (p. 1).²⁸ This falls out of Lewis’ (1986d) claim that each world is explained at itself (pp. 128-133). This just means that the chance process determines how a world comes out, and the way a world comes out has nothing to do with any other world. Every world, then, with regards to its physics and the chance process, cannot and would not generate something alien or incompatible with itself. Lewis’ theory should be praised for a systematic and general way of accounting for possibilities and thereby blocking impossible ones.²⁹

Between Lewis not accepting impossible worlds anyway, and the reasonable assumption that no world would generate anything impossible, I think POR is fine as is and does not require a further caveat about impossible worlds. POR, then, is the principle that Lewis (1986d) uses to support “that there are possibilities enough, and no gaps in logical space” (p. 87).

Up next is Lewis' analysis of actuality.

2.5 Actuality

Lewis' analysis of *actuality* is up next. I start with an attempted objection to Lewis' program based on actuality. Lewisian GMR holds a plenitude of worlds, spatiotemporally and causally isolated. Regardless of isolation, it is still the case that all

²⁸ There is another question lurking here. Does Lewis, by claiming there are no impossible worlds, actually “inhibit” possibilities? There are those who argue that there are true contradictions. For example, Graham Priest (2006). Lewis (1986d) clearly thinks there can be no such thing when he follows his claim of there being no impossible worlds by saying that you would speak “truly [of them] by contradicting yourself” (p. 1). The possibility of true contradictions is a fascinating one and worth pursuing in light of GMR. It is, however, beyond the scope of this dissertation.

²⁹ One might ask about the ontological status of imaginings, or fictitious universes in novels, that are truly impossible. It is an important and interesting philosophical issue. However, it is not a pressing problem for Lewis, anymore than anyone else. And it falls well outside the scope of my dissertation. I set it to one side. For Lewis on fiction generally, see Lewis (1983f) and Lewis (1983e).

these worlds exist, that they are part of actuality. Or as Lewis (1986d) frames this stage of the objection:

"...it is a trivial matter of meaning that whatever there is, is actual. The word 'actual' is a blanket term, like 'entity' or 'exists': it applies to everything. Not just everything hereabouts, or everything suitably related to us, as I would have it; but *everything* without restriction" (p. 97).³⁰

So even if there are other worlds, isolated from us, they are still part of actuality. But now we have a serious problem according to this objection.

Lewis (1986d):

"Since everything is actual, the other worlds, if such there be, actually exist. Then *it is not merely possible that they exist. They are not unactualised possibilities*. In fact they have nothing to do with possibility. For possibility concerns not the far reaches of actuality--not even the reaches of actuality that are spatiotemporally isolated from us, if such there be--but rather it concerns *alternatives to actuality. Actuality--all of it, no matter how much of it there is--might have been different, and that is what modality is all about*" (pp. 97-98) (emphasis mine).

What is Lewis' response?

He simply does not use 'actual' as a blanket term. Rather, he interprets it as an indexical, on a par with words like, 'you,' or 'today,' etc. On Lewis analysis, 'actual' turns out to mean 'this-worldly'. Thus, when I discuss 'actuality,' I can only be referring to the contents and inhabitants of a particular world. *Nota bene* that 'actual' no longer is the same as 'existence' on this analysis.

³⁰ See also: Lewis (1983b) and Lewis (1986d, pp. 92-96).

If actuality is indexical, other worlds and their parts can rightfully be said to be *un-actualised* possibilities. What is actual at a world, could have been otherwise in so many different ways. Lewis (1986d): "Possibilities are not parts of actuality, they are alternatives to it" (p. 99). To put it one final way, the preceding statements can say 'possibilities are not parts of *this world* (wherever 'this world' is used), they are alternatives to it.' So, not everything is actual on Lewis' analysis.

The last thing I say about actuality is that *isolation* is doing a lot of work for Lewis. That is, *because of* spatiotemporal and causal isolation, the worlds cannot be considered altogether as one big world. If the worlds were causally or spatiotemporally connected in any way, then everything would be actual. 'Actual' can function as an indexical term because there is no interaction of any kind across worlds in Lewis' GMR. Lewis (1986d) says:

"If I were convinced that I ought to call all the worlds actual--in which case also I might be reluctant to call them worlds--then it would become very implausible to say that what might happen is what does happen at some or another world. *If there were a place left for unactualised possibilities at all, they would be possibilities of a grander sort--not differences between the worlds, but other ways that the grand world, the totality that includes all my little worlds, might have been...All this would be a great defeat, given the theoretical benefits that modal realism brings*" (pp. 100-101) (emphasis mine).

Thus, Lewis denies that everything is actual because 'actual' is an indexical term meaning 'this-worldly.' From the standpoint of any world, the rest of the plurality of worlds is unactualized.

I said earlier that Lewis' analysis of actuality is underpinned by isolation. I would like to flag this point. If isolation could be shown not to hold, the point about the grand world returns, especially if some kind of causal connection across worlds is implied. With the return of the grand world comes the point about everything being actual. This is discussed more in chapter 5.

2.6 The Qualitative/*De Re* Distinction

There are two seemingly contradictory themes that have appeared so far. First, there is the idea that all individuals, whether a world or a part of a world, are possibilities, actual at some world (where 'actual' is an indexical term). They could have been otherwise. Via accessibility relations or counterpart relations, worlds and their parts represent ways other worlds and their parts could have been. But there is another theme that has not received much attention yet.

Simultaneous with his views on possibility, Lewis (1986d) is very clear that the plurality of worlds could not be otherwise: "There is but one totality of worlds; *it is not a world; it could not have been different*" (p. 80) (italics mine). Lewis (1986d) says elsewhere that "the character of the totality of all the worlds is not a contingent matter (p. 126). In Section 2.2, I quoted Lewis (1986d) as saying that the sum of all his counterparts is non-contingent (p. 220). In fact, the strength of the claim of the necessity of the plurality is such that, according to Lewis' (1986d), it could not have been the case that the plurality did not exist (p. 73)! That is, everything, with a completely open and not world-bound quantifier, exists necessarily!³¹ Finally, Lewis (1986d) says that the

³¹ I discuss this necessity of existence a little more in Section 5.3. Lewis (1986d) thinks that explanations are "an account of etiology" (p. 73). I tend to agree and this theme of explanation being causal returns later in the dissertation. Nevertheless, with regard to the necessity of

plurality of worlds is a “non-contingent fact” (p. 130).

Given that the plurality is a necessary truth in the strongest possible sense of necessary, one might think that each world and each part of each world is likewise necessary. In fact, in chapter 3, I introduce the work of Andrew Beedle who makes exactly this point. Is this right? Has Lewis missed something? No. In fact, I think he offers an elegant and systematic reconciliation between these two conflicting themes.

This reconciliation is found in his characterization of the qualitative/*de re* distinction.³² The place to begin explaining this distinction is by qualitative and non-qualitative characterizations.

Stephan Torre (2014) says that “qualitative properties, roughly, are properties that can be expressed by predicates that don’t contain a proper name, indexical, or demonstrative.” Non-qualitative properties, then, are expressed by predicates that contain proper names, indexicals, and/or demonstratives. Torre (2014) offers the following examples of non-qualitative properties: “Being two feet from Stephan, being taller than this guy, having Socrateity, maybe being an actual magician.” The first example is expressed in part by a proper name, the second is expressed via a demonstrative, the third property is expressed by using a proper name again, and the last one uses the indexical (on a Lewisian paradigm) ‘actual.’ ‘Actual’ operates on a this-worldly property or part, picking it out as an individual.³³ Note that non-qualitative properties are always about a particular *res*. And that a *res* is always a world or a part of a world; that is, a *res* is world-

everything, I think that the worst of it is not that he would try to offer an explanation, but that there could not have been nothing! This merits more attention than I give it here.

³² I would like to thank Sonia Roca-Royes for discussion on this point.

³³ This is, of course, only a rule of thumb for expressing qualitative vs. non-qualitative properties. There is a long-standing debate about how to understand both qualitative and non-qualitative properties as well as how to express them. While interesting in their own right, I do wish to settle either of these debates. My goal is simply to explain how Lewis uses these in his work. Interestingly, Lewis does not definitively interpret those issues either; rather, his is a framework in which those debates might be settled.

bound.

However, a *res* can be given a qualitative characterization. A *qualitative characterization* of something mentions no individuals via demonstratives, proper nouns, and/or indexicals. It characterizes via properties and relations. 'Characterization' here means something like 'description.'

Let's return to Lewis' claim that the plurality of worlds is a non-contingent matter and could not have been different. There are only a few ways to understand these claims. One might think that each world and each part of a world is fixed and necessary (Beedle makes this mistake, as I argue for later). But if Lewis had this in mind, a lot of his talk on isolation and actuality would be pointless. Come to think of it, the whole apparatus of the plurality of worlds would be pointless because everything would be one grand world. Actuality is the indexical that means "this-wordly;" it refers to the world-bound nature of each individual. Isolation means that each world must be explainable at itself.³⁴ Combine these, and Lewis gets the combined result that each world is actual at itself, but could have been different in so many ways, represented by other worlds and their parts.

Isolation also means that there are no transworld individuals, though there are plenty of transworld mereological sums. In Section 2.2, I explained how anything can have a mereological sum, but that does not thereby mean that there are transworld *persons* or *individuals*. So there is not a person comprised of me and my counterparts, though there is a mereological sum. Similarly, there is not a transworld potato that is made up of this potato and all its counterparts. The mereological sum of this potato together with all of its counterparts is real enough though; but it is not a potato or

³⁴ At least to the extent that worlds are explainable at all; Lewis (1986d) is convinced that explanation "terminate[s] in brute matters of fact" (p.129). I would like to thank Derek Ball for discussion on this point.

anything interesting.³⁵ The demarcation line between worlds, I explained in Section 2.3, is spatiotemporal connectedness. Not just any sum is a world; the parts must also be in spatiotemporal arrangement.³⁶ Section 2.5 explained how actuality and possibility work together in Lewis' thesis for GMR. So how should we understand Lewis' claim that the plurality of worlds is not a contingent matter?

I think that the best way to understand Lewis is by saying that the qualitative characterization of the plurality of worlds is necessary and non-contingent. Consider: the mereological sum of the worlds is itself not a world. Nevertheless, there is a sum, though *the members of the sum are not spatiotemporally or causally unified*. Thus the plurality is an entity, a sum; but it is not an individual in the same way that my counterparts and I are not a transworld person. If this is right, then there is no individual world at which there are all the worlds. That is, there is no *res* that could have been otherwise. In effect, the plurality can only be characterized qualitatively. Lewis (1986d): "There is but one totality of worlds; *it is not a world; it could not have been different*" (p. 80) (italics mine).

To sum up this discussion to this point, any world-bound individual, whether a world or part, could have been otherwise. This is represented by all the other worlds and their parts. The plurality itself is not located in any one world; it therefore can only be qualitatively characterized as there is no world or its part to represent *de re* all of it. Moreover, because the worlds are isolated, there is no transworld causal interaction; each world is causally explained at itself (see Lewis (1986d, pp. 128-133)). So the plurality of worlds does not and could not "determine" which worlds represent what content.

Note that this does not mean that every single qualitative description is necessary

³⁵ I would like to thank Derek Ball for discussion on this point.

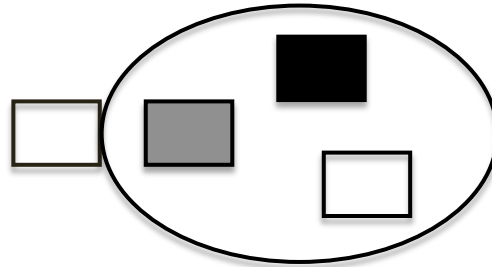
³⁶ Or possibly an analogically spatiotemporal arrangement.

anymore than it means that any non-qualitative description is simply contingent. *De re* modal claims are claims about what is necessary or possible for a particular thing; qualitative claims are *not* about a particular thing.³⁷ What is in view here is the only characterization one could give about the plurality of worlds is qualitative since there is no one world in which there is everything.

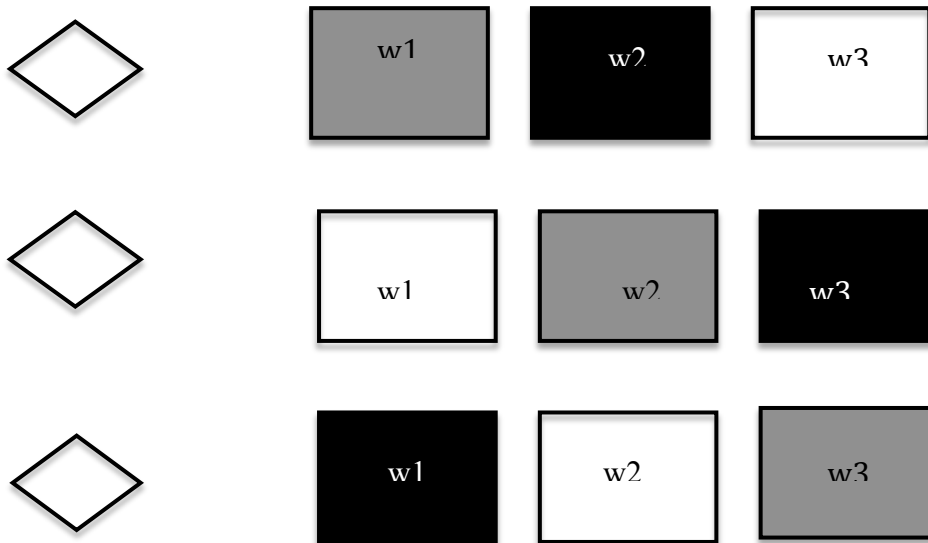
Figure 1 below, on the next page, illustrates the qualitative/*de re* distinction, plenitude, and failure of plenitude. The first part illustrates that, necessarily, there is a white world, a gray world, and a black world. The specific worlds-- w_1 , w_2 , and w_3 --are the worlds, the possible individuals. So, the qualitative characterization of the plurality does not specify which world represents what content; that is, it does not say which world is a w_1 world, a w_2 world, or a w_3 world. Also, there is no world that contains all three worlds; there is only the mereological sum of the three worlds, the plurality of worlds. The figure nearest the bottom illustrates what a failure of plenitude looks like; it cannot be the case that there are two black worlds, and one gray world if that means the white world is not represented (I am, following Lewis (1986d, p. 87), agnostic on the existence of indiscernible worlds).

³⁷ Thank you to Derek Ball for discussion on the points in this paragraph.

The qualitative necessity of the plurality. The box outside is the modal operator "necessarily."



Below are possible permutations of the above. The diamond is the modal operator "possibly." Note that the qualitative necessity of the plurality does not determine which specific world represents which content.



Below depicts a failure of plenitude; an unacceptable gap in logical space.



Figure 1

So much for the general thesis of Lewis' GMR.³⁸ There are other components to the theory, but what has been said is sufficient for the purposes of this dissertation.

³⁸ For more discussion on possible worlds, I recommend Lewis (1973, pp. 84-91).

Chapter 3: Agency and Beedle’s Fork

I said in the introduction that my thesis is not just another “incredulous stare” at the theory of GMR. I said that what seems strange is how to reconcile GMR with agency. There is a governing intuition at work that something is strange about plenitude and agency in particular. The chapter proceeds in the following way.

I begin this chapter by discussing the “puzzle of plenitude.”³⁹ This is done via an example of a three-world plurality and three agents. I argue that what makes the puzzle so compelling is precisely the free will concern. In particular, plenitude and agency seem to be at odds. Following this section, I discuss in very general terms the debate between agent causation and determinism (whether hard or soft). My aim is not to settle the debate one way or another; just to set up that all sides have coherent views and that they have different implications for GMR (later, I will show that GMR through POR cannot accommodate agent causation theories). Following this, I introduce Andrew Beedle’s fork against GMR.⁴⁰ He offers an attempt at cashing out the puzzles of agency and GMR. Beedle builds his work upon that of Robert Adams (1974), but there are similar ethical arguments made against GMR through the decades, all of which share the intuition that GMR and agency have strange implications. Beedle argues that either GMR implies modal fatalism (which will be defined), or that any desire for good at our world is *eo ipso* a desire for other worlds to be bad ones. This is what seems strange about GMR and

³⁹ I am grateful to an anonymous marker for the term ‘Puzzle of Plenitude.’

⁴⁰ I interpret his argument as a fork because modal fatalism and his content-of-desire argument cannot both hold simultaneously if he wants the desired effect. If modal fatalism is right, then who cares about the content of my desire? It is already determined by something other than me. However, if modal fatalism is wrong, then the content of my desire could be very important as I think about how to behave responsibly as an agent.

agency according to Beedle: it either implies fatalism, or makes agential choices and actions transworld affairs. In effect, we would have to radically re-think ourselves as ethical beings.

Although I argue that neither prong sticks Lewis, Beedle is on to something important. That is, there is an intuition that GMR has serious implications for agency. The reasons Beedle's arguments fail as they stand are because Beedle does not take into account the qualitative/*de re* distinction, isolation, and attitudes *de se*. Part of the aim, then, of this chapter is to slough off several species of arguments against Lewis that do not stick, while preserving the main intuition that GMR has hidden, and most unwelcome, implications for agency. I then explain how one should argue for these hidden implications. In essence, one needs to show that POR precludes agential causation with the concomitant consequence that *at no world* in the plurality is there agent causation.

3.1 Agency and the Puzzle of Plenitude

Consider the following case. Let us suppose that an agent, call her Clare, is standing at her world. Suppose there are only two other worlds in the plurality. One of the Clares surveys her house and realizes that she has three options for action available to her. They include writing a technical essay in her chosen field, baking a delicious cake, or constructing a lightsaber. What should she do? If Clare decides to write the essay, then there are two other worlds where one of her counterparts bakes a delicious cake, and the other counterpart constructs a lightsaber. Remember that the plurality must contain each kind of world (plenitude) and, because of isolation, each agent's decision must be explained within the framework of her world. There seems to be something very strange

about this example if the GMR framework is assumed. Let us see if GMR can help assuage the strangeness.

The usual Lewisian interpretation of the Clare saga goes like this. When Clare chooses to write the essay, she *could have* chosen to bake a delicious cake or construct a lightsaber. These possibilities are represented *de re* by the other two Clares. *Mutatis mutandis* for the other Clares and their actions.

Far from assuaging the strangeness, this interpretation of the Clare saga only highlights it. What seems strange is precisely thinking about the Clares as agents, while acknowledging plenitude. Perhaps each Clare wanted a lightsaber. Is there a reason they cannot all construct one? But it is this option that is impossible on Lewis' view. If we consider the Clares to be agents, and we move to the "moments of decision" at each world, why does plenitude hold? A Lewisian might protest that there is no reason why GMR has to answer this question; that is, there is no reason why a genuine modal realist needs to give a causal story here (from the discussion of causality in the Intro). Plenitude just expresses that everything is actual at some world. It does not have to explain why each world is the way it is, much less why the Clares chose to do what they did.

This response merits some discussion. But let's begin with another three-world plurality *without* agents (or at least without candidates for agency). Suppose there are three worlds and one tree at each world. Each tree must fall in one of three directions: north, south, or east. Whichever direction the trees fall is presumably "selected" by the world. That is, one world is such that its tree falls to the east: perhaps because of a storm, maybe because the soil was blown away on one side and the tree was on a side of the cliff...etc. It is random in one sense that each tree falls the way it does. It is random in the

sense that each world selected for its outcome via the chance process. It is not random in another sense because the prevailing laws of physics determined which way each tree would fall.⁴¹

The story Lewis gives about this, in very general terms, goes like this. First, says Lewis (1986d), there is “the non-contingent fact that there are a plurality of worlds, wherein the alternatives are selected all different ways” (p. 130). In our example, there are just three alternatives, of course. Lewis (1986d) further says that there is nothing here that requires explanation (p. 130). It just is the case that there is a plurality of worlds. Secondly, though, Lewis (1986d) says that there is the “egocentric fact” that each world is each world and not another (p. 130). But this also does not require an explanation; it just is the case that each world selected for each outcome via the chance process.⁴² After all, says Lewis (1986d), “...it would arouse my suspicion to be told that, after all, explanation does *not* inevitably terminate in brute matters of fact” (p. 129). Lewis, I interpret, has explanation “bottom out” at the non-contingent fact of the plurality, and the chance process selecting for each world. If one accepts that explanations bottom out somewhere, I think Lewis has placed them in the right spot.

Now, let us take this story and return to the Clares. The reason that Lewis or a Lewisian might protest at my causal question about whether or not it could not be the case that all three Clares could construct a lightsaber is because first, he is beginning with the non-contingent fact about the plurality of worlds, and second, each world evinces an outcome of the chance process. Neither of these facts require an explanation, and

⁴¹ I am not here attempting to settle the debate about the relationship between chance, physics, and the world, though this is an interesting discussion in itself. My point is just that whatever story one tells about the world, this story explains which way the tree falls.

⁴² This section of Lewis (1986d) is dealing with the question of arbitrariness as it pertains to GMR (pp. 128-133). But the point can be adapted to current purposes.

therefore my question about why each Clare could not have constructed a lightsaber does not require an explanation.

Nevertheless, I am going to insist that the “why” question is valid if we assume the Clares are agents in a particular sense of the term. I return to this, but first I wish to briefly discuss three families of theories of human agency. I am not trying adjudicate among them, or defend any particular one. I discuss them in service of further pinpointing the strangeness of the Clare saga.

The first two kinds of theories of human agency can be discussed together under the umbrella term of determinism.⁴³ Determinism, says Blackburn (2008), “may be defined as the doctrine that every event has a cause. More precisely, for any event e , there will be some antecedent state of nature, N , and a law of nature, L , such that given L , N will be followed by e ” (p. 141). If determinism is right, there is a puzzle from agency. Blackburn (2008):

“But if this is true of every event, it is true of events such as my doing something or choosing to do something. So my choosing or doing something is fixed by some antecedent state N and the laws. Since determinism is universal these in turn are fixed, and so backwards to events for which I am clearly not responsible (events before my birth, for example). So no events can be voluntary or free, where that means that they come about purely because of my willing them when I could have done otherwise” (p. 141).

The two reactions to this puzzle are dubbed by Blackburn (2008) as “hard” determinism and “soft” determinism (p. 141). “Hard” determinism is basically the view that denies we

⁴³ This part of the discussion borrows heavily from Simon Blackburn’s (2008) characterization of determinism (pp. 141-142).

are agents and denies that we are responsible for our our decisions.

“Soft” determinism is basically the view that determinism and agency are compatible. "Soft" determinism is often called compatibilism. So the difference between a compatibilist and a hard determinist is that the compatibilist accepts some kind of story about free will.⁴⁴

A third family of views are agency theories that consider compatibilism as untenable.⁴⁵ Since I am not arguing for any one theory over another, I set these to one side, and simply introduce one group of such theories: libertarian theories of agency.

Blackburn (2008) defines libertarianism:

“A view that seeks to protect the reality of human free will by supposing that a free choice is not causally determined but not random either... What is needed is the conception of a rational, responsible intervention in the ongoing course of events. In some developments a special category of agent-causation is posited...”
(pp. 209-210).

And agent-causation, says Blackburn (2008), is “[a] presumed special category of causation whereby agents initiate sequences of events when they act, without the initiation being itself causally determined” (p. 9). In what follows, I use the libertarian category of theories that employ agent-causation.⁴⁶

In summary, hard determinism and compatibilist views embrace determinism.

⁴⁴ This is an oversimplified characterization. The compatibilism debates, both against hard determinism and among the various compatibilist views themselves, have a long history and get quite complex. For a concise overview of the free will/compatibilism/hard determinism debate, see: Blackburn (2008, pp. 141-142). For a longer, detailed discussion about compatibilism, containing its history, its arguments against hard determinism, and an overview of the various kinds of compatibilism, see McKenna (2009).

⁴⁵ For a very important example of such a view, see: Peter van Inwagen (1983). Van Inwagen (2008, p. 340) also thinks that if one wants to be a compatibilist, one should "study carefully" Lewis (1986a) because that is the way to be one.

⁴⁶ There are other kinds of libertarian views.

The former says that free will is an illusion, the latter says that whatever human agency is, it is compatible with determinism. The agent causation view basically says that there is another causal force alongside the world, which is human agency as evinced through reason. (It is this latter view that I later cast in terms of the *tuchel/techne* antithesis (Chapter 4).)

Based on the terms that have been defined, it is my assessment that neither hard determinist views, nor compatibilist views can be reconciled with agent causation. In effect, I think that hard determinist views and at least some compatibilist views are compatible with GMR. No agent causation view is compatible with GMR. I am not making any kind of argument at all about which of these three families of views is the correct one. What I am arguing for is that one of the unwelcome, hidden consequences of GMR is that it is not flexible enough to account for an agent causation theory of human agency *and* I am also arguing that it is not the right sort of argument to settle the debate anyway.⁴⁷

I prefer the terms “agent causation,” “agency,” and “agents” when discussing the possibility of free will, given the philosophical baggage of the term ‘free will.’⁴⁸ The reason I prefer this set of terms and their derivatives is because of its emphasis on human reason, which plays an important role in the next chapter. ‘Free will’ has connotations of ‘doing whatever one wants’; this is a sense I am not using or discussing in this dissertation.⁴⁹ Moreover, whenever I use the terms “agent,” “agency,” “agent causation,”

⁴⁷ It merits mention that Lewis (1986a) is a compatibilist. For more information on this, see also Phillip Bricker (2006, p. 17).

⁴⁸ Not that ‘agency’ does not have philosophical baggage. Again, I recommend van Inwagen (2008) and van Inwagen (1983)

⁴⁹ Free will has better connotations such as ‘acting without coercion.’ But, again, I prefer agency and its derivatives.

and their derivatives, I am exclusively referring to the agent causation sense from hereafter.

Let's return to the Clares and consider the moment of decision at each world assuming both GMR and that each Clare is an agent *in the agent causation sense*. Suppose Clare1 makes her decision to write the technical essay. It is not as if Clares2&3 have two remaining options to choose from; there are no spatiotemporal or causal links across worlds. Each agent's choice must be entirely accounted for from the vantage point of her own world. The strangeness here centers on how the Clares and the worlds they inhabit "work together."

That is, according to this framework, both the world with its nomological principles and chance factors and the Clares through reason, choice, and action are supposed to be compatible with plenitude. The puzzle is this: If the Clares at least partially determine the world in which they live, one might think that it is possible for every Clare at all three worlds to construct a lightsaber. But, according to Lewis (1986d), this results in "an unacceptable gap in logical space, a failure of plenitude" (p. 88). So how much of the worlds are determined by the Clares, and how much is determined by the worlds themselves? How can we understand this mixture?

This is where I am insisting that my question about why each Clare could not construct a lightsaber is valid: if one mixes GMR with agent causation, one has to confess one more causal force, which is agency. So there is the non-contingent fact about the plurality of worlds, the chance process selecting for options...and agency. And agency, in the agent causation sense, is neither causally determined nor random. I think this is the puzzle of plenitude, agency, and GMR. Can GMR modal realism unproblematically

account for this “new force?” Is it flexible enough to allow for some story along these lines? The answer to both of these question, I say, is no.

I think the intuitive pull of the puzzle displayed in the Clare example is just what to make of it in light of agent causation. For the rest of the dissertation, I assume the agent causation view of agency since it is clearly the most at odds with Lewis’ theory. Again, I am not proving agent causation theories nor am I defending them. I am only looking at the consequences of agent causation for GMR.

I would like to suggest that the puzzle rests in a conflation of two kinds of modalities: worldly and agential. Consider. Today was rainy, but it could have been sunny. The meteor missed the Earth, but it could have struck it, killing all life. Clare1 wrote a technical essay, but she might have constructed a lightsaber. The first two statements are clear examples of chance and nomological processes in action; they would have been different if the world was different.

The Clare example seems different. While it is true any of the Clares *could have* chosen differently, that would be only because each of the Clares chose differently, not because the world was different. The contingency, then, for the Clares is rooted in the agents themselves *qua* agents, not in how the worlds they inhabit are. I argue later that POR only captures the first kind of contingency, but not the agential kind. This is what I mean when I say that GMR is not flexible enough to cover agent causation theories. The location of the puzzle, at any rate, is the intersection of plenitude (POR) and agency.

In the next few sections, I introduce the work of Andrew Beedle who attempts to catch Lewis on a fork. I think that the main impulse of his work is the strangeness I have been highlighting, but I also think his arguments fail as they are. But they do so in

informative and instructive ways that I think sharpen the intuitions about agency in play.

3.2 Beedle and Modal Fatalism

Andrew Beedle (1996) thinks, as I do, that GMR has serious implications for human agency. He uses a fork argument in an attempt to demonstrate that either GMR commits us to modal fatalism (that is, there is no agency; this is explained below), or GMR implies that our desires about this world being a good one are simultaneously desires that other worlds are worse off. The first prong of the fork is meant to show that GMR implies that there is no agency. This section focuses on the first argument.

The prong of the fork Beedle favors against GMR is modal fatalism. By ‘modal fatalism,’ Beedle (1996) means that the character of each and every world is fixed and necessary because the whole of the plurality is fixed and necessary (pp. 491-492). Beedle (1996) sums up the reason for this: "If the character of *all* the worlds is given, then the character of *each* world is given" (p. 492).

This seems to make sense; if the plurality could not have been otherwise, how could the worlds have been otherwise? Beedle thinks this has implications for agency; specifically, that there could be no such thing. The reason is that, since each world is completely necessary, then a being that thinks she’s an agent is wrong; she does exactly what she must do according to the world. If Beedle is right, this means that my choices are ultimately not part of the causal fabric of this world (or, of course, any world).⁵⁰ Or, if my choices are part of the causal fabric of my world, they are not chosen by me, but by the world or system of worlds (whatever that means).

An example is in order, and I adapt it from Beedle (1996, pp. 492-493). I am typing

⁵⁰ Beedle is attempting to recast the argument from indifference against GMR originally posited by Robert Adams (1974).

this section of my dissertation on a Thursday morning at the library. It seems possible (and actually likely) that someone is going to interrupt and distract me. Orthodoxy says that I have several possibilities at that point from which I can freely choose. I might choose to kill the person, to shake his hand, give him a stick of gum, ask him to leave me alone, etc. But what I do is up to me. However, according to Beedle, if GMR is right, then this orthodox stance is wrong because if I choose anything freely, I am thereby *determining* both the kind of possibility I am and the kind of world at which I live. But if the character of the plurality, and therefore all worlds, is fixed and non-contingent from their beginnings to ends, then I would not choose from these options when I am interrupted; I would simply discover what kind of possibility I am, whether I be one that kills or gives out gum. Beedle (1996): "The idea that I choose is illusory, because it is not as if I am *choosing* to be a member of a certain world in making any ethical decision. Instead, my decision just shows me which is the world that already has me as a part" (p. 493). Seemingly, a this-worldly analogue of this point is the kind of determinism that states that all events, even so-called human choices are ultimately explained by the laws of nature.

But this is only a 'seeming.' For then Beedle (1996) distinguishes his sense of modal fatalism from both determinism and classical fatalism (pp. 493-494). According to determinism, everything proceeds from the past, and, given the initial conditions, things would go exactly the same way. In other words, the world is ordered in a rational way. But, GMR does not require any world to be rational or follow a rational causal order. There could be a world at which a man could be walking down a street and, in a flash, for no rational reason, turn into a pterodactyl. Beedle (1996) points out that GMR "does not

claim that each successive state of a world depends causally on the previous state” (p. 494). I think he means just what has been said; some worlds do follow a rational order; others do not. Causal connections are contingent.

Beedle also juxtaposes his theory against a classical form of fatalism, the tragic Greek myth, in which Τυχη (Fate, or Fortune) oversees the big details, but the little details are left up to the person. For example, the hero is often told that he will suffer great evil or die at a particular time. He then does everything to avoid this, only to find that he cannot. Beedle (1996): “This sort of fatalism gives one the freedom to make little choices (like setting sail on a particular ship or avoiding certain foods) but claims that the larger elements of one’s life are rigidly fixed. In essence, any set of conditions will lead to the same outcome” (pp. 493-494). He rejects this as well, since it allows for a modicum of freedom; he argues that if GMR holds, *all* parts of *all* worlds are fixed.

In summary, classical fatalism allows some, smaller choices on our part to be part of the causal order. “Classical” determinism posits that each moment is causally dependent on the previous. But GMR requires neither. According to Beedle, GMR requires that each moment and part of any world be rigidly fixed. So modal fatalism is not like the Greek tragic myth because everything is rigidly fixed; and modal fatalism is not deterministic because it does not require a rational, causally dependent chain of events at every world.

If Beedle were right about modal fatalism, this would indeed provide a powerful reason to think that Lewis’ abductive argument for GMR is not on better footing than his rivals. But I think there is a good Lewisian response that shows why Beedle’s argument is far too quick. Specifically, Beedle does not account for the qualitative/*de re* distinction.

3.3 A Lewisian Response to Beedle's Modal Fatalism

The key assumption in Beedle's (1996) argument is that "if the character of *all* the worlds is given, then the character of *each* world is given" (p. 492). In chapter 2.6, I argued that when Lewis says the plurality is necessary, he means that it is *qualitatively* necessary. But then Beedle's sentence better read: "if the qualitative character of all the worlds is given, then the qualitative character of each world is given."

Lewis, however, is not committed to this at all because 'all the worlds' can simply mean 'the plurality.' Now the statement would read: "if the qualitative character of the plurality is given, then the qualitative character of each world is given."

For the argument from modal fatalism to get off the ground, the consequent has to mean that the qualitative character of each particular world is also given. There are at least two reasons why Lewis is unscathed from Beedle's argument. First, to say that the plurality of worlds is qualitatively necessary just means that all possibilities are actual at some world. It does not mean that just because this is a necessary truth, that the content of each particular world is thereby determined. An example is in order. Let w_1 be a world with blue swans and w_2 be a world with me in it sipping a lemonade. Suppose further that the whole plurality of worlds was just these two worlds. So, necessarily, there is a blue swans world and a me-sipping-lemonade world. Beedle is claiming that because the plurality is necessary, each world is also necessarily the way it is. So necessarily, w_2 is the world in which I sip on lemonade and w_1 is necessarily the world in which there are blue swans. But Lewis is not committed to this at all. w_2 *could have been* the world that contained blue swans and w_1 *could have been* the world in which I sipped lemonade. Lewis is only bound to the claim that the plurality of worlds contains all possibilities. But

this does not include the further claim that each world is thereby necessarily the way it is; each world could have been otherwise in so many ways! This is the qualitative/*de re* distinction in action.

The second reason why Lewis is unaffected by the argument from modal fatalism is because, according to Lewis, each world must be causally explained at itself. This is a consequence of isolation. Another consequence of isolation is that any world or part of a world really could have been different if the world had “been caused” differently. Beedle’s argument for modal fatalism seems to imply, however, that isolation fails. It seems to imply this for two reasons. First, because no worlds in the plurality could be otherwise. w_1 and w_2 are fixed for good and could never have been otherwise. To put this the other way around, to question if w_1 could have been different is to ask if the plurality of worlds could have been different since “if the character of *all* the worlds is given, then the character of *each* world is given.” But, if the whole plurality and each world in it could not be otherwise, then everything is actual (see: (Lewis, 1986d, pp. 97-100)). If everything is actual, there is some kind of connection among all things. As seen, though, from Section 2.3, 2.5, 2.6, and this section, there is no reason why this argument sticks.

Although Beedle’s argument does not work as it stands, the intuition of the argument is, I think, exactly right. Beedle (1996) claims modal fatalism implies a “moral defect” because it causes us to think of ourselves as agents in profoundly different ways; in this case, that we are not really agents (p. 488). I agree with this intuition. However, I think that what is really troubling Beedle is that agential contingency and “worldly” contingency are both supposed to be caught under the umbrella of POR. But POR really

only describes “worldly” contingency if there are such things as agents. So while I think Beedle is right to be suspicious, his argument aims its guns at the wrong target: necessity. He would have done better to aim at the nature of contingencies. Later, I argue that agency would require a different formulation than POR if GMR is to hold, but that no such formulation can exist.

In the next section, I analyze his counterfactual causation argument.

3.4 Beedle and Counterfactual Causation

Let’s see if Beedle’s second prong, the argument from counterfactual causation, fares any better.⁵¹ Beedle (1996) announced it thus: “If we are inclined to think that my characterization of [GMR] is too pessimistic, I have recourse to another argument” (p. 494). Following this, he introduces his second argument, which examines the implications for GMR if we are agents.

Suppose that our choices are causally efficacious in contradistinction to modal fatalism. Then, according to Beedle (1996) the modal realist account of causation goes something like this: “An event *c* causes an event *e* iff the closest not-*c* world is a not-*e* world as well. Thus...*c* caused *e* iff the conditional ‘If not-*c*, then not-*e*’ is true” (p. 494). So for example, suppose I am deciding whether or not to kill my neighbor’s loud dog. I weigh out the merits of each decision, including the ethical implications and I decide that I do not want to kill her dog after all. I would want to say that the deliberations are important because the decision I come to constrained my action; that is, because of my decision, I am a not a dog killer. But, as Beedle (1996) further notes, I also want the following counterfactual to come out true: if I had chosen differently, I would have killed

⁵¹ Beedle (1996) offers the following references for his account of modal realist causation (p. 494): Lewis (1986d, pp. 23-27), and Lewis (1986c).

the dog (p. 494).

And this is the point: for modal realist causation, my decision causes me to not kill the dog iff the closest world where my counterpart kills the dog is one where my counterpart does not make the decision not to kill.⁵² So my decision not to kill the dog is explained by "the character of the world closest to mine [being] a certain way" (Beedle, 1996, p. 495). This seems to grant Beedle his conclusion: "The desire to have power over our actions amounts to a desire that some other world be a certain way" (Beedle, 1996, pp. 494-495). But it is important to emphasize that, for Beedle (and of course Lewis), counterfactual causation does *not* mean that my deciding to do *x* *forces* the closest possible world to be a *not-x* world.

Lewis (1986d), however, wants to maintain that our ethical concerns are, and should be, this-worldly and/or egocentric (pp. 125-128).⁵³ There is no point in worrying ourselves with the conditions of other worlds since it is impossible to change them. Nevertheless, Beedle seems to make an interesting point. It seems that making agential decisions *is* to be concerned with other worlds. One might think that if we were all do-gooders at this world, we would not only be "hogging" all the good, but *eo ipso* wishing evil on other worlds.

The next step is to discuss a Lewisian counter-response to the above.

⁵² I am, for simplicity's sake, assuming that the decision is followed by the action and also that nothing interferes with the action. For example, as my counterpart sets out to kill the dog, he is suddenly whisked away by the feds.

⁵³ Interestingly, Lewis (1986d) thinks that "[a]n ethics of our own world is quite universalistic enough. Indeed, I dare say that it is already far too universalistic; it is a betrayal of our particular affections" (p. 128).

3.5 A Lewisian Response to Beedle's Counterfactual Causation Argument

The first part of the response centers on Lewis' (1986d) account of causal explanation (pp. 128-133).⁵⁴ Suppose we wanted to explain the following:

(1) An apple fell from the tree.

And suppose we were genuine modal realists. We accept that all possibilities are actual at some world; that "[d]ifferent worlds have all different outcomes of the chance process" (Lewis, 1986d, p. 129). We might then, *contra* Lewis, take this to further mean that because all possibilities obtain at some world, there is no longer any real arbitrariness or chance at our world. That is, we might use the vast plurality as an *explanation* for what happens here. The reason the apple fell from the tree is because a counterpart of the apple did not fall from a counterpart of the tree at another possible world. But this, according to Lewis (1986d), is a mistake.

We should not think that the reason the apple fell from the tree is because counterparts of this apple fell from counterparts of that tree at some worlds, but not others. This gives us no causal information; after all, the worlds are spatiotemporally and causally isolated. What happens at one world does not cause things at other worlds. Rather, we need to investigate what happened at our world. Suppose we do. We find that the reason the apple fell was because a gust of wind blew it down. Lewis (1986d):

"If we learn how hurricanes are caused, we gain some knowledge of the causal ways of our world. No such knowledge could have been gained just by thinking that some worlds have hurricanes and some do not, and that we are who

⁵⁴ Strictly speaking, this section of Lewis' book argues that arbitrariness is not lost if GMR is accepted.

we are, and we are inhabitants of a world with hurricanes" (p. 131).

This is only the first part of a Lewisian response to Beedle. It is not enough though, because both Lewis and Beedle agree that GMR does not require direct causation across worlds.

The second part of a Lewisian response centers on Lewis' counterpart analysis. As discussed earlier, Lewis (1986d) says that "modality turns into quantification" (p. 5). In effect, necessity and possibility are all about worlds and their parts. The range of modal quantifiers is often set by our use of language. Suppose I say:

(2) I might have died today.

(2) is made true by my counterparts that die "today," instead of living on. The pertinent counterparts *represent* my death. But my living did not cause them to die, nor did their dying cause me to live. My conditional statement is simply quantification over worlds.

I think that Beedle is sneaking in the idea that Lewis' counterfactual causation *explains* causation, instead of quantifying over possibilities; that particular counterfactual claims give causal information about causal claims. That is, what he seems to really be doing is saying that my choice to not kill the dog is *explained* by a counterpart killing the dog at another world. Let's reconsider the statement:

(3) If I had chosen differently, I would have killed the dog.

Beedle is concerned that my desire to avoid being a dog-killer is simultaneously a desire that another world is another way. This seems inherent in the following two statements from Beedle (1996):

"When I say that my decision not to cheat on my taxes *caused me not to cheat*, the counterfactual account of causation [the genuine modal realist account

of causation] holds that this is true iff the character of the world closest to mine is a certain way. *It must be a world where I do decide to cheat and then cheat*" (p. 495) (italics mine).

Secondly, and more explicitly, Beedle (1996) says: "According to [GMR], *causation is a counterfactual and hence 'multi-world' affair*" (p. 491). The italicized text from both quotes seems to say that what *caused* me not to cheat is exactly that I cheat at another world.⁵⁵ But this is a *causal explanation*, which Lewis explicitly argues that he is not giving.⁵⁶ More importantly, Lewis is very explicit that each world is causally closed at itself. I can only causally explain my actions from the standpoint of my world and its causal fabric, or nexus, however that cashes out. I cannot appeal to other worlds that are causally and spatiotemporally isolated from me.

There is a sense, however, in which "causation is a counterfactual and hence 'multi-world' affair." Causation is counterfactual insofar as what happens, what is done, what is experienced, may have been otherwise or was necessary. Lewis (1986d):

"As I touch these keys, luminous green letters appear before my eyes...and if I had touched different keys—a counterfactual supposition—then correspondingly different letters would have appeared" (p. 23).

This is a counterfactual account of causation; in effect, if I had not typed the letter "L," say, then it would not have appeared on my screen.⁵⁷ Or, possibly, I might not have typed "L." This becomes something like "at another world, my counterpart did not type "L."

⁵⁵ I am also not happy with Beedle's use of 'I.' 'I' exist at only one world. My counterparts exist at others. Although there is a sense in which they are 'me,' they are not worldmates and the egocentric fact of my identity is bound only to this world.

⁵⁶ Perhaps, then, 'counterfactual causation' is ultimately a misleading term by Lewis' lights.

⁵⁷ Lewis (1986d) says all this is only a beginning of a counterfactual analysis of causation. Counterfactuals need to be of the right sort; but how to determine this? Also, says Lewis (1986d), "not all effects depend counterfactually on their causes..." (p. 23). For more on Lewis' analysis of counterfactuals, see Lewis (1973).

The best way to understand this is that counterfactual causation is a way to *make explicit the quantification over worlds that is inherent in causal claims*.⁵⁸ *It is not a way to explain causation.*

To put this in another way, the fact that I am typing the letters you see before you is a counterfactual and other-worldly affair in that I could have typed different letters. And, in fact, I do have a counterpart that types something else (maybe some poetry lines or something). Thus, the idea is that while this-worldly causal connections hold in virtue of what happens at other worlds, this does not mean that what happens at other worlds causes what happens here.⁵⁹

This is the best way to understand Lewis. Otherwise, you get Lewis insisting on the one hand that causal explanations must be bound to a world, while on the other hand claiming that causation is not world-bound.

Beedle does agree that what happens at one world does not make something happen at another; but he does seem to smuggle in the idea that causation is a transworld affair in a way that sounds like transworld causation. Lewis (1986b) thinks, and I agree with him, that “to explain an event is to provide some information about its causal history” (p. 217) (*italics his*).⁶⁰ But nothing about other worlds gives us causal information about our own world. Counterfactual causation is way of *making apparent* the possibility and necessity inherent in causal claims, not to *explain* (where explain means to give a causal history) how things happen at a world.

So between Lewis' counterpart analysis and isolation, Beedle's argument, as

⁵⁸ I would like to thank Derek Ball for discussion on this point.

⁵⁹ I would like to thank Katherine Hawley for discussion on this point.

⁶⁰ Even if there were such a thing as a non-causal explanation (which isn't likely; see Skow (forthcoming)), it does not matter for the purposes of this dissertation.

stands, does not work. He has simply taken counterfactual causation and implied transworld causality.

Beedle might respond that all he needs is to show that my desire that my world is a certain way is simultaneously a desire about other worlds. He need not be concerned with causality since his is an ethical response dealing with the content of desire. But he can only make this claim about desires if there is a causal link across worlds, which he has not demonstrated. Here is why.

Lewis (1986d):

“The appropriate way to give the content of my desire is not by a condition that I want the entire system of worlds to satisfy, but by a condition that I want myself to satisfy. It is futile to want the entire system of worlds to satisfy a condition, because it is not contingent what conditions the entire system of worlds does or does not satisfy” (p. 125).

That is, my desires are irreducibly *de se*; that is, my personal desires are not facts about the plurality of worlds, they are desires that only “I” have.⁶¹ If such desires are facts at all, they are facts about me and not the plurality, or even my own world (Lewis, 1986d, p. 130). So whether the content of my desire is to thrust my counterparts into poverty by obtaining a million dollars, or to help my worldmates with the hoped-for million dollars, it is I myself who have either desire and this is not reducible to conditions about the plurality or even this world. Only I can have my desire fulfilled or not. Anyway, if I did desire to thrust my counterparts into poverty, this is pointless; my having a million dollars or not has no bearing whatsoever on their condition (isolation). For this reason, Lewis (1986d) compares the pointlessness of desires about the plurality with the

⁶¹ For an excellent essay on this, see Lewis (1983a).

pointlessness of certain this-worldly desires: "...[S]hould I lie awake at night bemoaning the evils of other worlds, and should I celebrate their joys?...I suppose the cancer patients in the tenth century suffered as much as cancer patients do today - ought I to spend my time bemoaning their suffering" (p. 127)?

Thus, Beedle cannot have the "content of desire" argument. First, because he snuck explanation and therefore causation into Lewis' understanding of counterfactual causation. Second, also based on Lewis' account of counterfactual causation, he reduced *de se* attitudes to conditions about the plurality of worlds. But such desires about the plurality are utterly pointless because of isolation. That is, only "I myself" can have a desire satisfied or not; the content of my desires is best given by a condition I want myself to satisfy, not a condition that I want the system of worlds to satisfy. In fact, my desire is not even reducible to the latter. So, to wish that I had a million dollars is not the same thing as wishing that the plurality of worlds was such that I had a million dollars.

Note that even if it could be shown that isolation fails somehow, this does not overturn the *de se* point. *De se* attitudes still are not reducible to conditions the plurality satisfies. Nevertheless, the main intuition behind Beedle's work makes sense. There is something weird GMR and agency. (Again, I suggest that specifically what is weird is that plenitude and agency do not make sense together.)

3.6 Summing Up with Beedle, GMR and Agency

In this last section of the chapter, I sum up the discussion and point to what needs doing if the governing intuition that there is something strange about GMR and agency is to be put to work. While I agree with this intuition, it is also true that Lewis has many resources to resist many forms of arguments based on this intuition. I here review these

and then point to what one would need to do in order to make a successful argument. I conclude by saying which of these I intend to do in the next chapter.

There were two main ways Beedle attempts to cash out the intuition that there is something strange about GMR and agency. First, he argued that GMR leads to fatalism. Second, he argued desires involve the conditions of other worlds. They are mutually exclusive arguments; that is, if fatalism is true, who cares if our choices involve other worlds as our choices are simply “selected by fate?” We would not be responsible in any way. We should only care about the ethical implications of our choices and the conditions or other worlds if we are morally responsible agents. Thus we have Beedle’s Fork.

However, one cannot establish modal fatalism by saying that if the plurality is necessary, then each individual world is necessary. This does not take into account the qualitative/*de re* distinction, Lewis’ account of actuality, or isolation. If one desires to establish modal fatalism, one must show that determinism holds at each world. Well, a form of determinism. As seen, there is nothing in GMR that requires each successive stage of a world to be causally dependent on preceding stages.

As to the other prong of the fork. *De se* desires are not reducible to what conditions the plurality of worlds does or does not satisfy. Any argument that attempts to show that the content of our desires is simultaneously a wish that the plurality of worlds satisfied certain conditions fails because of this. Any argument that attempts to show we should be ethically concerned with other worlds fails because of isolation and irreducibly *de se* considerations. Moreover, any argument that interprets counterfactual causation as giving an explanation of our actions fails because explanations are causal and there is no transworld causality (isolation again).

Nevertheless, as I have said before, I do think there is something intuitively right about Beedle's claims. Specifically, there seems to be something about GMR that directly affects our sense of agency. Lewis (1986d) deals with such ethical arguments in a section on moral indifference (pp. 123-128). There are three ethical claims in particular that he looks at: those from Robert Adams (1974), Larry Niven (1981), and J. J. C. Smart (1984). The first two map on to Beedle's sense of fatalism; the last one can be mapped to his counterfactual causation concern.

Here, I briefly look at the main claim of each, and how Lewis responds. Following this, I examine what is behind such claims, concluding that the problem is the conflation of two kinds of modality.

Robert Adams (1974) is concerned with our response to evils:

“I think that our very strong disapproval of the deliberate actualizing of evils...reflects a belief in the absolutely, and not just relatively, special status of the actual as such. Indeed, if we ask, ‘What is wrong with actualizing evils, since they will occur in some other possible world anyway if they don't occur in this one?’ (p. 216).

Larry Niven (1981), in a short story, says that even knowing about a plurality of worlds would make life meaningless.⁶² Lewis (1986d) interprets Niven: “Every decision you ever make is made in all the myriad ways it might be made. It is made one way by you, other ways by your other-worldly counterparts who are exactly like you up to the moment of decision” (p. 124). This includes massive life decisions, such as whether or not to commit suicide, or deciding what to eat for breakfast, or which Columbo rerun to

⁶² Lewis (1986d) is careful here (p. 125). There are a few ways to interpret Niven in his story. Lewis just takes the one that is most germane to the line of argument against GMR.

watch again. So who cares what you do?

Finally, J. J. C. Smart (1984) is concerned by the fact that GMR requires a collapse of a universalistic ethic (pp. 88-89). He says that by GMR's lights, one could only be concerned about what happens at one's world, and not the whole plurality. He says this is problematic because it is too much like the this-worldly analogue of caring too much about one's own tribe or nation, rather than the whole of humanity.

Lewis' responses can be summarized in the following ways. The reason why I should care whether or not I kill myself is because my desire to live or not cannot be satisfied vicariously through a counterpart. Only I can satisfy this. My attitude here is irreducibly *de se*. Moreover, Lewis (1986d) says that "an egocentric [*de se*] want is... a different thing from a want as to how the world should be... The first sort is not reducible to the second" (p. 125).⁶³ There are two points to pull from this. First, Adams' question "what is wrong with actualizing evils, since they will occur in some other possible anyway" is a direct attempt of reducing egocentric desires to desires about the world. So what is wrong with actualizing evils here is that I would become an evildoer. Is this something I desire for myself? If not, then I should not be an evildoer. The second point is similar. The reason GMR should not drive me to indifference about anything I do is because my egocentric desires are not reducible to my desires about the plurality of worlds (if such I have). That is, if I desire to live, no counterpart fulfills this desire on my behalf. Alternately, just because a counterpart of mine kills himself does not mean that my decision to live is meaningless because it matters to me.

With regard to Smart's point, Lewis (1986d) is perfectly happy with the collapse of a universalistic ethic and he thinks that a this-worldly universalistic ethic is

⁶³ For more on this, see Lewis (1983a). He defends this point in great detail there.

problematic (p. 128). But the salient point for my purpose is that Smart thinks it detracts from GMR that it cannot accommodate a universalistic ethic; that agents across worlds cannot be concerned for each other's welfare. Beedle's counterfactual causation argument turned on the content of desire, claiming that it is morally repugnant to desire to hog the good for ourselves. The point is a small one. I bring it up only to make some points. Before making them, I should say that Lewis (1986d) has more to say on Adams, Niven, and Smart and I have left out some of his arguments (pp. 123-128). But I think Lewis has responded very well to his critics on these matters and has rendered their points harmless.

However, the governing intuitions behind these ethical arguments have not been rendered harmless. Note the similarities between Beedle's modal fatalism argument and the arguments from Niven and Adams. They all turn on the idea of agency being false, or at least that our agential actions are meaningless since they all occur. Smart's point maps onto Beedle's counterfactual causation point. These two arguments turn on moral responsibility and its reaches; they assume we are agents. The first group of arguments (modal fatalism, Niven, and Adams) decry GMR for taking away the importance of agency, or even saying we are not agents in the case of Beedle's argument, while the second group (Beedle's counterfactual causation argument and Smart) say that GMR has devastating consequences for our sense of moral responsibility.

What I think is really driving all these arguments is that there are two kinds of modality in play and GMR only accounts for one of them (I defend this as a possibility in the next chapter). There is "worldly" modality and agential modality. Worldly modality is based on nomological principles and the chance process of a given world. So, the reason

why this tree grew here and not there is under this sort of modality. Or why friction produces heat at all the worlds that obey our laws. Agential modality covers why I chose to become a philosopher instead of a doctor. Or why a soldier chose to run from the battlefield in cowardice, rather than facing the enemy with courage. I contend that the reason why GMR sounds fishy is because it assumes modality is of one kind. This means that the reason why I chose to be a philosopher evinces the same kind of contingency as a rock rolling down a hill and narrowly missing a lake.

Beedle's modal fatalism argument is only interesting if we want to think of ourselves as agents in some way. This is because modal fatalism's this-worldly analogue is fatalism or determinism. If we think that chance and our nomological principles are sufficient to account for everything, including human action, then why be worried about modal fatalism? Beedle's interest in modal fatalism was precisely because it undermines us as agents. But note what is undermining us as agents; assuming that possibilities are of one kind. Even his counterfactual causation argument turns on attempting to make sense of agency through this one kind of modality. It does so because it takes plenitude (POR) and looks at some of the effects it might have on agents. He stops short of transworld causation, but he does say that if we are agents, then wishing our world is one way involves simultaneously a desire for other worlds to be other ways.⁶⁴ That is, the one kind of modality and agency has weird effects for us as agents. I think a more fruitful approach is to consider what would have to be true about the world if there were agents. And there is good reason to think that if there are agents, then another sort of modality is in play. If this is right, then it is fruitful to examine POR to see whether or not it is

⁶⁴ Later I argue that plenitude and agency are incompatible. But if they were compatible, there would still be the problem of a transworld causal issue. And if that were true, then everything would be actual.

flexible enough to accommodate agential modality. In fact, we shall see that POR is not flexible enough to accommodate agential modality.

Can GMR “bounce back?” Perhaps GMR just requires some kind of agential POR, APOR, to add to POR in order to account for both kinds of modality. Unfortunately for GMR, I argue that there can be no such principle to express plenitude for agential modality. And even if there were such a principle, it would involve a transworld causal force. If there is such a transworld causal force, then isolation fails and everything is actual. Effectively, this would bring Niven’s and Adams’s concern back; we would have to be concerned about the state of other worlds. But worse, this would be the “grand” failure of GMR that Lewis spoke (Section 2.5).

The rest of this dissertation, then, defends the following series of claims. There are two terms I use that require explanation before listing the claims: worldly modality and agential modality.⁶⁵ Worldly modality is about the possibility and necessity of non-agents. Some examples include the location of a lake, the sort of planet Earth is, the number of planets in the solar system, etc. Whatever could be said about their possibilities, or what is necessary about them will be based on the chance process and nomological principles of a world. Agential modality is about the possibility and necessity inherent in the actions of agents. Some examples include why I decided to be a philosopher rather than a doctor, why a virtuous person chose not to commit murder, rather than to commit murder, or why an artist chose one technique instead of another. Whatever could be said about agential possibilities, or what is necessarily true of agents, cannot be based on the chance process or nomological principles of a world. Here are the

⁶⁵ In this next chapter, these terms are replaced with the more precise terms of “tuche-based” modality and “techne-based” modality.

claims.

(1) According to many theories of agency, agential actions are of a qualitatively different kind of modality than chance-based modality.

(2) But POR in GMR only accounts for “chance-based” modality.

(3) No similar POR-like principle can be given for agential modality that does not collapse into POR.

(4) But even if a POR-like principle could be found, it would violate isolation because such a principle implies transworld causation.

(5) If no POR-like principle can be found AND there is agential modality, then plenitude fails or at least is not guaranteed (which is the same as failure for GMR).

(6) If there is no such thing as agential modality, and POR is correct, then GMR implies no agency at any world; necessarily, there is no agency (from (2)).

(Conclusion) If there is agency and GMR holds, then plenitude fails, or isolation fails (from (4), (5)). But if there is no agency, and GMR holds, then necessarily there is no agency at any possible world (from (2), (3), (6)).

My adaptation of Beedle’s fork is this. If there are agents, then either plenitude cannot be guaranteed or isolation fails; but if there are no agents, then there are not any agents at any possible world. So, what Beedle *et al* should have been arguing for are two fundamentally different kinds of modality and that one is not reducible to the other.

Figure 2 on the next page is an illustration of Beedle's Fork reforged:

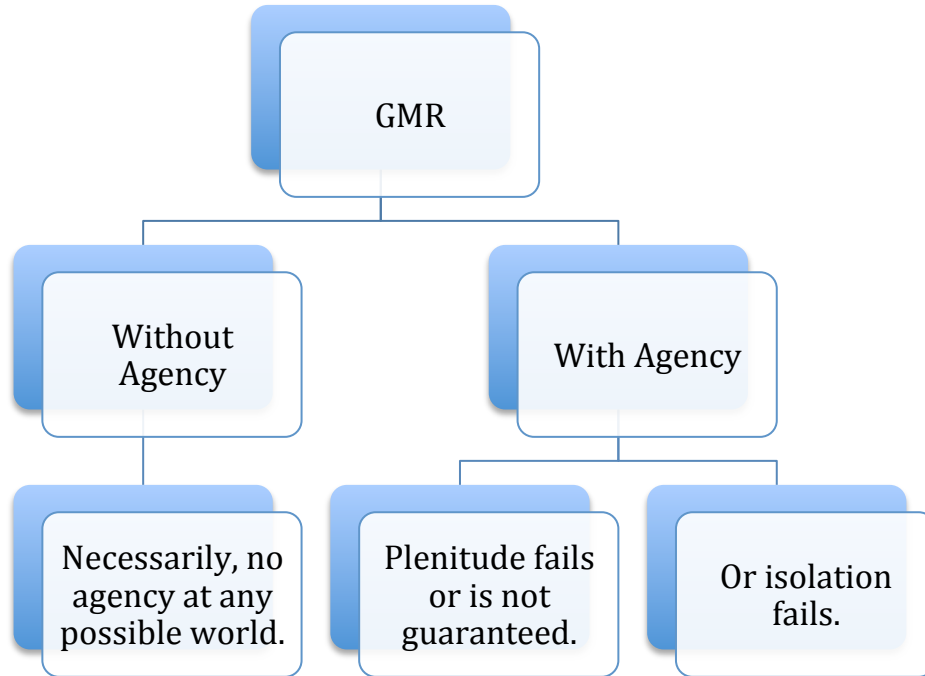


Figure 2

Chapter 4: The Τυχη/Τεχνη Antithesis, Agency, and the Problem with POR

The aim of this chapter is to establish (1) from the end of the last section. I establish (1) by discussing a view of agency based on a feature of ancient Greek philosophy called the τυχη (*tuche*)/τεχνη (*techne*) antithesis. The theory of agency I use based on this antithesis not only captures the agential idea that we in a very real sense determine what sort of world we inhabit, but also has two additional benefits. First, it offers the vocabulary and concepts to better articulate the two kinds of modality (worldly and agential) I mentioned previously. Secondly, the antithesis is based on the interrelatedness of *tuche* and *techne*. Thus, it takes as a starting point that, if agents exist, there is a perennial tension between chance and physics on the one hand, and agency on the other. To be clear, I am not defending the view. I am only discussing it as a vehicle to establish the two kinds of modality while doing justice to the idea that agency is a coherent view.

4.1 The *Tuche/Techne* Antithesis and Agency

Agent causation theories contend that human agency is a causal force in determining a world. Often, however, it gets to be an unclear issue where agency picks up and the “body” leaves off. That is, how should one think of the connection between an agent and their bodily processes, the latter presumably an example of the nomological principles of the world in action? This is not a question I wish to settle here; there are a

number of theories on this subject.⁶⁶ However, I shall select such a theory as an example to demonstrate that worldly modality and agential modality are not reducible one to the other.

A helpful paradigm for thinking about agency and the world comes from the ancient Greeks. The Greeks, of course, were not all of one mind about agency.⁶⁷ Nevertheless, there was a shared piece of furniture in the ancient Greek mind; it is the *τυχη/τεχνη* (*tuche/techne*) antithesis (Nussbaum, 2001, pp. 155-162).

Τυχη (*tuche*) is the Greek word for chance and/or contingency and/or fate and/or luck. Martha Nussbaum (2001) also uses the term “ungoverned contingency” as included in the concept of *τυχη* (p. 155).⁶⁸ ‘Ungoverned contingency’ can be roughly construed as ‘the world left to itself.’⁶⁹ *Tuche*, then, includes what we would call nomological principles (ungoverned contingency) and chance. It might seem strange to include the nomological principles under the blanket of *tuche*, but there was a good reason for this. *Tuche* is defined against *techne*. What the world does on its own very often interferes with our plans and applications of reason. For example, I might throw the best, most accurate pitch baseball has ever seen; but then a gust of wind, which is entirely explained by nomological principles, throws it off course. This is the sense in which the world left to itself is included the concept of *tuche*. But note this also defines a sense of chance. We

⁶⁶ Historically, the locus classicus of the mind/body distinction is Rene Descartes (1971). I do not imply that most think him correct about his substance dualism. But his view of the physical/material is just as popular as ever. However, other views consider the person as having mental and material powers; such views do not think the “body leaves off” and the “agency picks up.” Rather, the person displays material and intellectual powers. For excellent discussions of such views, see: John Greco and Ruth Groff (2013). For an example of someone who thinks that Descartes was right about the mechanistic view of the body, see: M. F. Burnyeat (1992).

⁶⁷ For example, compare the Stoics who believed in a rigid fatalism on the one hand, and on the other, say, Plato or Aristotle who accepted more of an agent-causal picture.

⁶⁸ See also: Anthony Preus (2007, p. 269).

⁶⁹ For more information about the *τυχη/τεχνη* antithesis, I commend Nussbaum (2001) to the interested reader (pp. 155-162).

often say, even in our contemporary vernacular, that the gust of wind that wrecked my baseball pitch was the result of chance. What we really mean is that we had no knowledge and could not plan against the gust of wind should it arise.

There are other senses of chance that are covered under *tuche* as well. Returning to the nomological principles of a world, we might think that even our current physical laws might have been different. However the world was formed, chance played a role in the way our universe is “governed” by its nomological principles.⁷⁰ So, even if our world was purely deterministic or fatalist, *tuche* is playing a role. It is playing a role in how the nomological principles came to be at the beginning of the world; they could have been otherwise.

But if our world was deterministic or fatalistic, then the sense in which the world “upsets our apple cart,” like when the wind blows my pitch to one side, would not be a relevant sense of *tuche*, since this implies that the world upsets our *techne*. But, that being said, if the world was deterministic or fatalistic, both my pitch and the gust of wind, although determined by the world, still evince *tuche* insofar as these things are the result of the world left to itself. Finally, *tuche* would of course include the notions of probability, such as when I roll a die, and, if the world is indeterministic, the kind of probability and chance operative in this case would also fall under the umbrella of *tuche*. I turn now to the antithesis of *techne*.

Τεχνη (*techne*) is translated in various ways into English, says Anthony Preus (2007), including ‘art,’ ‘craft,’ and ‘skill’ (pp. 258-259). Nussbaum (2001) also points out that

⁷⁰ I am here modernizing what could fall under the umbrella of *tuche*. Most Greeks thought some kind of demiurge created the world; thus the world was not a result of chance, but of a *techne*. However, if one does not believe the Earth was the result of an applied skill (*techne*), then it is *tuche* that largely determined how things are.

‘science’ is also a translation of this word (pp. 159-160). A *τεχνη*, says Nussbaum (2001) “is closely associated with practical judgment or wisdom...with forethought, planning, and prediction” (p. 160). Examples of *τεχνες* are math, shoemaking, dancing, flute-playing, painting, wrestling, etc. The thing they all have in common is that they evince reason. And reason, when applied to the world, reduces or eliminates the effects of *tuche* in any of the relevant senses discussed above. Consider: left to the wintry elements in Siberia, a human body would die. The *τεχνες* of fire-making and clothes-making mitigate the effects of the world.

This is the sense of agency I intend to use for the rest of this dissertation. Agency is an application of reason that reduces or eliminates the effects of contingency and chance in the world.⁷¹ In other words, applied reason is a causal force in the world alongside chance and nomological principles. In other words, at least some human acts determine what sort of world this is, alongside the laws of nature.⁷²

There is another important point to make about the *tuche/techne* antithesis. As seen, these two terms are defined off one another. Part of what made this tension so interesting to all Greek philosophers was precisely that human agents are products of *tuche* to some degree and mitigate said *tuche* to some degree. Some examples are in order. I was born in a place and time when I had several career options available to me, such as being a philosopher, a doctor, or a linguist. But I could have been born in a place and time when I never would have heard of philosophy, say. Thus, *tuche* “determines” in a very real sense where I am and when I am. However, wherever and whenever I find myself, presumably

⁷¹ Nussbaum (2001) says: “Techne...is a deliberate application of human intelligence to some part of the world, yielding some control over *tuche*” (p. 160).

⁷² Note that this is a different sense of agency than “doing whatever one wants” that is often associated with free will (though unfairly).

I am in possession of reason and can do things in accordance with it. So I may not have heard of philosophy, but I might choose from among other careers; or, even have a career determined for me, depending on the culture I'm in. But who I decide to be is in my hands, and very much incorporates reason and actions based on reason. Related to this last, suppose I was born in a household of vice, where swindlers of all sorts raised me. *Tuche* placed me there, but I might choose to "rise above it," in the sense that I do not wish to be a swindler. This will require good judgment, applied wisdom, and actions that accord and evince such good judgment and wisdom. Or even suppose that there is a patch of land ideal for the building of a house. *Tuche* determined the sort of land that it is; the possessor a *techne* must choose to place a house there. So again, part of the great interest of this antithesis is that it assumes already that *tuche* determines much of what happens to us.⁷³

Different Greek philosophers and schools of thought, such as Aristotle, Plato, and the Stoics, all had different accounts of this interplay and I need not adjudicate among them here. The salient point is just that if there is such a thing as agency, then it will be "intertwined" with *tuche*. My task is not to explain how this works exactly, but to show that whatever agency is, if it exists, it is not "covered by" POR. Moreover, again, I am not defending the *tuche/techne* antithesis. It is just a helpful tool for spelling out the implications of agent causation.

I think this is as good a view as any of agency, and it maps nicely onto the subject matter of this dissertation. Moreover, it gives me resources to stop using the vague terms "worldly modality" and "agent modality." Modality that is based on nomological

⁷³ Of course, one reason why agency sounds crazy to so many is because it implies another causal force in the world other than *tuche*.

principles and chance can be *tuche*-based modality where as agential modality can be captured in the term *techne*-based modality.

In the following sections, I explicate the two kinds of modalities at work.

4.2 *Tuche*-Based Modality

In the last section, I introduced the *tuche/techne* antithesis. In the following two sections, I say more about each side of it, beginning with *tuche*-based modality.

I introduced many senses of *tuche*-based modality in the last section. What ties them all together is that where there is no ability to apply a *techne*, there is only the world left to itself. This is the theme I am going to develop in this section.

Let's begin with the easiest sense of *tuche*; chance and nomological principles. I will use the modified, contemporary sense I discussed in the last section that does not assume a demiurge. Also, by 'chance', I have in view the probabilistic sense, or the random sense displayed when, say, throwing a die. The following statements exemplify different kinds of chance and nomological principles:

(1) I exist, but I could have not existed.

(2) The speed of light in a vacuum is 286,282 miles per second, but it might have been faster.

(3) The lightning bolt struck this tree, but it could have struck that tree.

(1) exemplifies certain existence claims. I was caused to exist, but I might not have. Actually, (1) is more complex as we shall see later in this section. But we can substitute that sentence for something like "Earth's moon exists, but it may not have existed." The idea is that many existential claims are modal in the chance and nomological sense. (3) is supposed to be an example of a random event. The lightning bolt could have struck this

tree, or me, but instead it struck that tree.⁷⁴ (2) is nomologically necessary for our world.

Lewis (1986d) defines nomological necessity this way:

“...it is nomologically necessary, though not unrestrictedly necessary, that friction produces heat: at every world that obeys the laws of our world, friction produces heat. It is contingent which world is ours; hence what are the laws of our world; hence which worlds are nomologically ‘accessible’ from ours; hence what is true throughout these worlds, i.e. what is nomologically necessary” (p. 7).

(1)-(3) depend on a combination of chance and physical laws to whatever degree or mixture. Such forms of chance and nomological possibility and necessity are handled well in Lewis’ formulation of GMR. At some world (or worlds), much like this one, my counterpart is absent. At some world (or worlds), there is no light/light travels differently/etc. At some world (or worlds), the counterpart of the lightning bolt struck something other than the counterpart of the tree. In the dialectic of this dissertation, these kinds of contingency and necessity claims are τυχη in action. That is, they are all the result of ungoverned contingency. Moreover, I think that POR “expresses” the possibility and necessity in chance and nomological principles without problem.

However, there are other phenomena that are categorized under *tuche*, some of which I mentioned in the last section. Nussbaum (2001) discusses three of these senses:

“First we notice the vulnerability of...people to luck [*tuche*] through their attachment to vulnerable objects and activities....[Second], [w]e see, too, that the values pursued by these people are plural...[Third], [w]e see, finally, the power of passion and need to derail practical planning...Those are the diseases. The correct

⁷⁴ Of course, this is not an entirely random event. The pathways between the clouds and ground are also influenced by many laws of physics. However, there does seem to be an element of chance in lightning bolt formation. Anyway, I usually discuss nomological principles and chance together.

techné of practical choice would seem to be the one that could cure them” (pp. 158-159).⁷⁵

I will say something more about each of these senses.

As to attachment to vulnerable objects and activities, a good example is pursuing love. This is not entirely in one’s power. Insofar as this is true, is insofar as one “puts his own life at the mercy of luck. He does not know or control his future” (Nussbaum, 2001, p. 159).

The case of plural values can be explained via this example. Suppose I wish to pursue philosophy, be a good husband and father, excel at Mixed Martial Arts, and become an excellent singer. Without a *techné* of practical reasoning, these various ‘values’ will “collide.” As Nussbaum (2001) puts it, without a *techné* of practical reasoning, there is “no clear way of rendering...[these values]...commensurable or of avoiding serious conflicts among them” (p. 159). So, while all of them may be worthwhile pursuits, some are probably more worthwhile than others given my situation. What could unify these various values and worthwhile pursuits in life is the *techné* of practical reasoning. By unify, I mean that this *techné* would rightly distinguish among and correctly assess the worth of each particular value. The one who applies this *techné* would then be able to order their lives in accordance with reason, rather than being thrown every which way by the conflict of these values.⁷⁶ To put this point of plural values in another way, there are probably thousands of “worthwhile” pursuits. How

⁷⁵ Nussbaum’s (2001) chapter is about a science of practical reasoning. She is interpreting the Platonic dialogue “The Protagoras.” The main point of dialogue is that Socrates is offering a new *techné* of practical reasoning that can mitigate the moral decay and problems associated with the moral sense of *tuche*. Nussbaum’s work is spelling out what sort of *techné* this would be.

⁷⁶ I do not mean to imply that without this singular *techné*, all have a life of chaos and undiscipline. That is too extreme the other way. The problem with current plural values, according to Socrates, is that they still eventually lead to deep problems and ultimately place us too much in the path of *tuche*.

should one go about selecting any of them?

Finally, the power of passion (roughly, the emotions) and need are also placed under the “auspices” of *tuche*. Many Greeks believed passions to be antithetical to the pursuit and actions of reason. Through their emotional power, passions would often “take over” a person’s mind, directing their steps outside reason, such that the overcome person would leave all other pursuits behind. But the passions were also thought to be the effects of nature (*tuche*) within us. It is the task of reason to subdue them and bring right order to one’s life.

Even bodily needs, like sleep, can place one at the mercy of *tuche*. For an example, I could be in the middle of the desert with a few other people, lost, and trying to find our way back and devise methods for survival. If I am too focused on my parched throat, I am not focusing on what needs doing in order to live; I am under the control of *tuche*.

Different situations in life can evince one or more of these senses. For example, suppose I am a house-builder, working at a house-building firm. Suppose that the company requires a series of layoffs and that I am on the chopping block. I lose my job. From my perspective, *tuche* has been cruel. However, one might point out that it was not the world left to itself that lost me my job, it was other agents. True. However, companies and firms in the Western world depend on markets. While any company or firm attempts to control markets (using *technes*), this is often done by manipulating the passions of pursuits of persons. Insofar as firms and clientele are not using reason to direct their lives, is insofar as they are at the mercy of external forces. Returning to my job, there was nothing I could do about it. But many *tuche*-related issues certainly pertain to it. The

modern colloquial expression of this is something like “life happens.” ‘Life’ here means *tuche*. However, what is always within a person’s control is how they react morally to ‘life.’ Suppose I rob a bank and pay off my house because of what ‘life’ was doing to me. Or suppose I receive it well and do not compromise my integrity. The important part of this example is not pinpointing where *techne* leaves off and *tuche* begins; rather it is to show their interrelated state.

Admittedly, these three senses of *tuche* sound strange to contemporary ears. I suppose one contributing reason is that we are not accustomed to thinking of ethical or moral issues as having strong connections with chance.⁷⁷ But then again, we do. We often consider the following factors when considering how people behave and act in life: biology, environment, upbringing, socioeconomic concerns, country, etc. All of these have elements beyond human control; I cannot decide who I was born to or where, etc. But insofar as I choose to deploy a *techne* of reasoning is insofar as I can mitigate these effects.

Moreover, we can see the direct connection between biology, say, and nomological and chance factors. If the world determined our biology through physics and chance, then we would behave only in accordance with our biology, with its passions, needs, and askew sense of value. It is through the application of *technes*, and hopefully the *techne* of practical reasoning that we can mitigate the effects of the world left to itself.⁷⁸

⁷⁷ I’m sure there are many other reasons as well. I am not here defending or adjudicating among such reasons since I am not defending agential causation from the ground up. I am only explaining a theory of agent causation.

⁷⁸ In Nussbaum’s (2001) discussion, humans do not yet have the science of practical reasoning. Socrates, like Prometheus, is bringing it as a gift. But interestingly, *technes* can, to paraphrase Nussbaum (2001), save us, transform us, and also help us to attain our ends while often reshaping the ends themselves (p. 156).

Finally, none of this implies a black-and-white view of the life governed by reason, or the life dominated by *tuche*. That is, I have been using “extreme” examples to highlight the senses of *tuche* discussed in the literature. I am sure one could think of many “gray” examples where the clear effect of *tuche* and the mitigating effects of *techne* are not so clear.⁷⁹

In sum, *tuche*-based modality deals with the necessity and possibility inherent not only in physics and chance, but also biology and the chance factors of moral contingency.

Returning to Lewis’ formulation of POR, I am also willing to admit that it extends to the social and moral considerations of *tuche* above. *Tuche* is the world left to itself, and the world left to itself does include our biology, the environments we grow up in, the times we live in, etc. In other words, the extent to which my job depended on *tuche* is the extent to which I am happy that chance factors and physics at another world generate a counterpart of myself who was not on the chopping block. In chapter 5, I argue that Lewis’ formulation of plenitude, POR, can only express *tuche*-based modality.

The subject of the next section is the possibility of a whole other kind of modality; *techne*-based modality. If there is another kind of modality that cannot be expressed via POR, then GMR has a serious problem.

⁷⁹ In fact, such gray areas are, in part, what motivated thought about this puzzle to the various schools of thought. Socrates, inter alia, was making the point that where such grayness existed under the present *techne*-schema, was the extent to which *tuche* dominated. The pieces of evidence Plato is using for this conclusion are the advanced moral decay, wars, pestilence, and many other horrors that befell Athens. Anyway, the point is this. Without this “master *techne*” that Socrates is offering, the various *technes* are not “unified” in a way that would make the living of life the most reasonable. I am here unconcerned with the “master” *techne* of practical reasoning, although interesting in its own right. My main concern is defining the antithesis and showing where the demarcation lines are.

4.3 *Techne*-Based Modality

In this section, I examine *techne*-based modality. That is, I discuss the necessity and possibility inherent in the applications of reason. In what follows, it might appear that I am defending the view, but I am not. I am only drawing out the implications of agency via the antithesis. This section also shows what it means for agential decisions to evince a qualitatively different kind of causation than physics and chance (point (1) from Section 3.6). This section also establishes the possibility that if there is a *techne*-based modality, then there are serious consequences for plenitude as expressed by POR.

Below, I introduce *techne*-based modality via five examples of modal claims that are resistant to Lewis' analysis of plenitude. What they all have in common, according to the *techne*-based view, is that they are not reducible to the causal nexus of a world. Consider:

- (1) The gondolier skillfully maneuvered the gondola around the corner, despite the gusty winds, which could have made him crash.
 - (2) Margaret, wanting to escape the canyon in which a fallen boulder had pinned her arm, cut off her arm, cauterized it, and sought medical help at the nearest town, although she could have chosen to wait for help.
 - (3) Edgar Allan Poe wrote *The Raven*, but he might not have if he had chosen differently.
 - (4) Stanley refrained from killing Maxton because he did not want to go to prison, but, had Stanley decided otherwise, he could have killed Maxton.
 - (5) Svyatoslav's character was such that necessarily, he could never rob a bank.
- Before discussing each in turn, it is helpful to discuss what they all share in

common. The idea is that any deliberate act of reason to garner some kind of control over *tuche* evinces a *techne*. Thus, a master of any *techne* is always displaying agency.⁸⁰ Each of my characters, with the exception of poor, despised Maxton, has the skill (or *techne*) set necessary to act well against *tuche*. In what follows, as I discuss each particular example, a richer picture of both *tuche* and *techne* are developed.

(1) is about the application of a *techne* against the forces of nature. Left to ungoverned contingency, the gondola would have crashed into the wall. The gondolier mitigated the effects of the world. True, he might have failed in his task and crashed into the wall anyway, but not for a lack of effort; not for a lack of an attempt of applying his *techne*. Left to itself, left to the forces of nature, the gondola would certainly have crashed.

Related to this last point is how the *techne* was learned. Presumably, our adroit gondolier spent a long time perfecting his craft, learning to apply his skill in different circumstances and weather conditions. This included the transitions from basic maneuvering to more streamlined and complex maneuvering. Thus, his *techne* was the result of a deliberate and sustained effort, preempted by many decisions and concomitant actions to stay with the *techne*, over the course of years. During this extended period, he probably could have chosen to give up and try his hand at other *technes*, such as bank telling or becoming an astronaut.

Even more broadly, the world left to itself would not have produced any gondolas, much less a gondolier. Moreover, the world left to itself would not put people in gondolas. They would need to walk, or drive, or perhaps take an airplane. Walking evinces a *techne*, as does driving. Any mechanical device for transportation displays

⁸⁰ Agency is not necessarily limited to this. Perhaps *technes* are simply a subset of agential actions. I am simply sticking with the view on offer. All I need is that some actions are agential, however that is cashed out.

techne. So there is an interwoven pattern of *tuche*-related phenomena, and the *technes* applied against it. Here are just some of the *technes* in action: gondola-building, gondola-maneuvering, walking, driving, car building, language, finance (the passengers had to pay the gondolier; he had to know how to count and do math), even construction (the building that they would have crashed in to was not put there by *tuche*).

While (1) may exemplify an “interwoven pattern” of *tuche* and *techne*, (2) is meant as an example of the “collision” of *tuche* and *techne*. I discussed earlier that one of the reasons why the Greeks found the antithesis so interesting was the interrelated nature of *tuche* and *techne*. For example, *tuche* plays a large role in not only the sorts of creatures we are (I did not decide to be human), but in the range of *technes* we can employ (because I am human, I cannot fly). Another reason the antithesis was popular was because of the violence with which *tuche* can operate.

Seneca (2004), discussing and personifying *fortuna* (that is the Latin for *tuche*), said: “fortune [*tuche*] does not just capsize the boat: she hurls it headlong on the rocks and dashes it to pieces” (p. 45). The literary flourishes aside, the point is that the world often disrupts and interrupts a person or persons in action. Hurricanes, tornadoes, volcanoes are all obvious examples. But so are things like falling rocks, lightning strikes, etc. Margaret was exercising her hiking *techne* when disaster struck. The world caught her off guard in a painful and violent way. It was through exercising her set of hiking skills that she settled on her decision. Probably, one of the reasons why she cut off her arm was because of how far away the nearest town was. Help was unlikely to come.

There is more happening in this example too. Not only is her ability to canyon climb the result of years of practice (as in the previous gondola example), there are also layers

of *technes* involved here, such as amputations and cauterizations (and city-building!). Are these part of the *techne* of mountain climbing, or are they separate *technes*? What I mean is this. Does the *techne* of mountain climbing (and even gondoliering) comprise many other *technes*? Do these further *technes* have other *technes* comprising them, leading up to the ‘master’ *techne* of practical reasoning from the last section? Whether or not *technes* can be construed in hierarchies with a series of constituent, lesser *technes*, or as altogether separate, is an interesting issue. But I must set it to one side. The main thing I want to draw attention to is that our *technes* are not usually in isolation.

Decision-making itself is a *techne* insofar as it leads to an action that mitigates the effects of *tuche* and the ability to put other *technes* in action through a *techne* is a complicated affair. A while back, a popular thought about agency and action was that, up until an agent selected and enacted an action, the biological laws of nature were in force; this was temporarily suspended when the agent employed her faculty for action. But if the view on offer is correct, a typical day is chocked full of greater and lesser *technes*, such as brushing one’s teeth, driving in traffic, walking to the office, etc. There is a constant interplay, then, between agents and *tuche*, either in the sudden form of (2) when the boulder fell, or in the case of everyday life. Or, to put it another way, *tuche* would not result in teeth being brushed or offices being walked to; left to themselves, teeth would rot and no offices would be occupied.

(3) is an example much like (1). The reason it made the list was because it exemplifies the use of language as a *techne*, which merits mention. All competent language users exhibit a perspicacity in a wide array of concepts. To obtain such a mastery requires years of linguistic development through reading, speaking, writing, and

generally, engaging other language users. Novels, philosophical writings, poetry and other kinds of writing can employ a very high level of linguistic prowess. But so does speaking with friends, giving speeches, or listening in on a lecture about a topic that is altogether new for the listener. Language is a ubiquitous, yet an arduously obtained, *techne* among human beings. The point is that--if the agent causal view is correct--the world left to itself would not produce linguistically competent agents.⁸¹ This is accomplished through training, hard work, and, in short, the application of various linguistic *technes*.

Examples (4) and (5) are moral examples and deal in character. I will be using the language of virtue, but really I think what is said could be adapted to most ethical theories. One of the governing ideas about moral action is the idea that one must practice to become moral. A good analogy is going to the gym. When one first starts, her muscles are weak and flabby. Over time, she gets stronger. Similarly, practicing moral actions is like lifting weights; the more you do it the stronger you get. The germane point is that agents act in accordance with their sense of the moral, and their sense of the moral is developed as they act morally.⁸²

As is well-known, the Greeks were not of one mind about many things. But something most of them agreed on (except those like the Sophists), was that philosophy is the 'art of living well.' Art here is of course a *techne*, and 'living well' had very definite moral connotations. Now, because *techne* is involved here, that means there is

⁸¹ Well, this could be a contentious claim. A hard determinist would definitely disagree. But one does not need to be a hard determinist to find this claim strange. Anyone who believes in the theory of evolution will find what I wrote strange; did we not evolve linguistic capabilities? To be clear, I am not emphasizing how language came to be, just how we become proficient users. This involves many *technes* on the current view.

⁸² Even if one thinks that we just have a sense of the moral simpliciter, agents still act in accordance with their sense of the moral.

some kind of way *tuche* can “interfere.” One way *tuche* could interfere is this. Suppose a man was watching as a boulder careened down a mountain on its way to a child. He might be terrified of losing his own life, but morality demands he saves the child.⁸³ The point is that the boulder is “hurled by *tuche*,” but it offers a chance to exercise morality and thereby counteract what the world does left to itself.

The subject of (4), Stanley, does not seem to be a person of high moral fiber. It appears to be the case that the reason he lets Maxton live is only because he does not want to go to prison. But suppose he were to find out that he could kill Maxton and never get caught? Suppose, for example, that he discovers a poison that, when administered, would leave no trace in the body that a toxicology report would find. Suppose, too, that he just “chanced” upon this poison because he read something about it. *Tuche* here is the main reason why Stanley would choose to become a killer. He “accidentally” stumbled on something that would drive him to murder Maxton. Moreover, Stanley is driven by ‘life’ more than virtue or character. The reason he first was not going to kill Maxton was only because ‘life’ would imprison him; not because it was wrong or that Maxton was a fellow-creature, but only because of what ‘life’ would throw his way. He is *tuche*-controlled in at least these two ways. Stanley, many ancients would say, is a creature that *tuche* has more influence over because he has not worked on the *techne* of life, or philosophy.

(5) is meant as an example of the “virtuous person”, who, on principle, would never steal from anyone, much less a bank; necessarily, he never steals. Call him Svyatoslav.

There is no possible world at which Svyatoslav would rob a bank. Suppose, too, that

⁸³ Let’s just suppose morality demands this. And anyway, one can change the example to suit. Suppose the child was about to fall off a bunkbed and the man was right there. He could just catch or stop the child without being in danger himself.

Svyatoslav had a rough childhood and still chose the path he is on. Despite powerful obstacles to his non-thieving quality, he chose this way of living. Each day, he made decisions against the background he came from. This sort of person would never choose to rob a bank because this would violate their very character. There are no circumstances or situations, that is there are no *contingencies*, that would result in this choice because this person is a practitioner of the art of life. The very point of a *techne* is to mitigate contingency. This example exemplifies again the interwoven nature of *tuche* and *techne*. While *tuche* ‘decided’ where he came from, it could not decide his character because this is the result of the *techne* of philosophy. Like all *technes*, one must choose to learn/apply it.

In sum, according to the view on offer, *techne*-based modality deals with the necessity and possibility inherent in agential actions. These actions are not rooted in chance, contingency, the world, etc...in short, *tuche*. They are based on the reasons why an agent acts, especially when they *could have* chosen different. Some courses of action are necessarily chosen in virtue of character; other courses of action could have been selected had the agent so acted. These actions of an agent, when they are an act of applied reason, mitigate and in some cases eliminate the effects of *tuche*.⁸⁴ If the foregoing is right, then there is a very important consequence.

Techne-based modality is not reducible to *tuche*-based modality precisely because *technes* mitigate and/or eliminate *tuche*. This is the basis for the ontologically distinct kinds of modality at work. This means that the reasons why an agent could or could not act in some way is not contingent in the same way as why lightning struck this tree, when

⁸⁴ In these ways, this theory also satisfies the intuitive notion that at least some of our decisions as agents are the results of choice and reason, not chance and nomological processes. Moreover, I see no reason why it is not reconcilable with many theories of agency.

it could have struck that tree. (Note also that saying that *techne*-based modality is not reducible to *tuche*-based modality is equivalent to the agent causation claim that agents are causal forces along with the chance process.)

There are some senses in which Lewis might agree with me that *techne*-based modality is not reducible to *tuche*-based modality and some senses in which we will parts ways.⁸⁵ I want to focus on only one of each here. One way of cashing out a point of agreement is through Lewis' attitudes *de se*. Lewis might take me to mean by *techne*-based modality just that agential desires are not reducible to the world or plurality of worlds. So suppose I desire to become an expert clown. The best way of describing this desire is that having the quality of clown-ness is something I want for myself, not something I want the plurality of worlds to satisfy (which includes, of course, my world). So I act in accordance with the desire and begin the climb to clown-hood (I am here assuming an uncomplicated link between desire and action). Anyway, we both agree that my desire to be a clown is *not reducible* to a quality the plurality of worlds has, or even what qualities my own world has. Or, in terms of the talk so far, my desire for clownhood is not reducible to *tuche*. Agreed. I do think that *techne*-based modality explicitly involves attitudes *de se*. But there is much more happening in *techne*-based modality than just desires, and this is where I can introduce the point of disagreement.

While *techne*-based modality does indeed involve attitudes *de se*, this is not all there is to say about it. Let us return to the Clares. Baking a delicious cake, constructing a lightsaber, and writing a technical essay are all tasks that evince various *technes*.

Presumably, each Clare, through a deliberate act of reason, acts on a decision she comes

⁸⁵ Ultimately, though, I think Lewis would reject the agency causation view on offer with its implications of ontologically distinct kinds of modality due largely to his compatibilist views.

to through said reason. Could the Clares have chosen to do otherwise than they actually did? Yes, but why? Is it because the world (*tuche*) was such that each chose what they did, whatever ‘choose’ means? Or was it because each Clare employed her set of *technes* and settled on a course of action? If some kind of agent causation theory is correct, it is the latter. But if it is the latter, does plenitude as expressed by POR sufficiently account for *techne*-based modality? I think it does not, as I defend in the next chapter in Section 5.1. For now, I say the following.

With regard to (1) from the end of Section 3.6, decisions agents make and enact through various *technes* (including moral *technes*) are not explainable by the “world left to itself.” That is, assuming any agent causation theory, for such *techne*-based actions, physics and chance do not offer the relevant causal information required to answer the question of why an agent did a particular thing (such as bake a delicious cake). Even if the world does provide a “backdrop” against which agents decide (such as where I was born and who I was born to), this does not fully account for the actions of agents. Therefore, the possibility and necessity inherent in such actions is fundamentally different than the possibility and necessity inherent in things like why the sun is as big as it is, or why an earthquake struck here and not there. But POR mentions nothing about deliberate acts of reason; it seems only to describe the chance process. Could Margaret, with her arm pinned to the canyon, have chosen to draw a fake mustache under her nose with a black Sharpie? According to POR, this seems possible and therefore actual at some world. If it is truly possible, it seems very random and unconnected with reason and the situation around her. But if it is random, then it is by definition not an act of reason; it is not evincing masterful applications of *technes*. In short, such an action seems to evince

the effects of *tuche* rather than *techne*.

It should also be reiterated that although I have used *tuche*-based and *techne*-based modality as my terms of choice, I have not said anything different than that agents, at least sometimes, choose a course of action that is not determined by chance or physics. This should be broad enough to capture any agent causation theory.

Finally, in summary of this chapter, what all the *techne*-based decisions and courses of action have in common is the deliberate, reasoned act of the agents which mitigates *tuche*. So the unifying factor of all *techne*-based modality is reason. The unifying factor of all *tuche*-based modality is chance. Agency understood understood by this antithesis pressures POR in GMR.

Chapter 5: Beedle's Fork Returns

In this chapter, I defend (2)-(Conclusion), which recasts Beedle's fork to more devastating effect. Here again are (2)-(Conclusion):

(2) But POR (Principle of Recombination) in GMR only accounts for "chance-based" modality.

(3) No similar POR-like principle can be given for agential modality that does not collapse into POR.

(4) But even if a POR-like principle could be found, it would violate isolation because such a principle implies transworld causation.

(5) If no POR-like principle can be found AND there is agential modality, then plenitude fails or at least is not guaranteed (which is the same as failure for GMR).

(6) If there is no such thing as agential modality, and POR is correct, then GMR implies no agency at any world; necessarily, there is no agency (from (2)).

(Conclusion) If there is agency and GMR holds, then plenitude fails, or isolation fails (from (4), (5)). But if there is no agency, and GMR holds, then necessarily there is no agency at any possible world (from (2), (3), (6)). The chapter proceeds in the following way.

In Section 5.1, I first argue for (2) by demonstrating that POR cannot account for *techne*-based modality; it only accounts for *tuche*-based modality. I then lay out the fork: Lewis can attempt to find some principle like POR for agents, or he can abandon agency altogether. Neither are good options.

In Section 5.2, I discuss what would be implied for GMR if there was agency.

Assuming some kind of agential POR (APOR), I show that even if there could be such a thing, it would imply a transworld causal force. Call it Mysterion. Whatever agents do would not only have consequences for other worlds because of what I will call the transworld butterfly effect, but all worlds would thereby be actual since APOR would be a transworld causal principle. This gets me (4). I also argue in this section that really, no such principle like APOR could exist because it collapses back into POR. The main point here is that POR is more or less an expression of chance (*tuche*-based modality); but agential modality is not (entirely) chance-based. This gets me (3). If there are agents, and Lewis wants to keep isolation, then plenitude fails, or at least cannot be guaranteed. This is because worlds and agents can determine themselves. If agents partially determine their own worlds without a principle of plenitude, then there is no reason to posit a transworld force. This gets me (5).

In Section 5.3, I consider the ramifications for GMR if Lewis denies agency. This is not a good option either. This is because GMR implies that not only does our world not have agency, but at no possible world could there be agency. The problem is that GMR is the wrong sort of argument to settle this (6). This gets (Conclusion). If there is agency, then plenitude fails, or at least is not guaranteed. But if there is no agency, then there is no agency at any possible world. This is Beedle's fork reforged, based on, as it ought to be, POR and agency.⁸⁶

5.1 POR and *Tuche*-Based Modality

The aim of this section is to demonstrate that POR only “works” for *tuche*-based modality in defense of point (2) from Section 3.6. I proceed in three basic steps. First, I

⁸⁶ See page 67 of this dissertation for the illustration of the fork.

address a claim that Lewis makes about questions of causation being irrelevant to the counterfactual analysis of causation in GMR. I argue that, if there are agents, then it is not irrelevant. Secondly, I show that POR cannot accommodate agent causation theories and is only amenable to *tuche*-based modality. Finally, I motivate a counter response on Lewis' behalf, suggesting that perhaps a broader sense of counterpart relations might get Lewis what he needs from POR.⁸⁷ I conclude, however, that this still does not address the concern about POR.⁸⁸

Lewis (1986d) makes a telling statement in a section of his book where he defines predetermination according to GMR (pp. 7-8). Predetermination, posits Lewis, is best treated by putting together nomological accessibility restrictions and historical accessibility relations. Lewis (1986d) defines nomological necessity as all the worlds that have our physics (p. 7). Historical necessity, as Lewis (1986d) defines it, is the class or set of worlds that are identical up to a certain point (p. 7). Then Lewis (1986d) offers this telling statement:

“Putting together nomological and historical accessibility restrictions, we get the proper treatment of predetermination—a definition free of red herrings about what can in principle be known and computed, or *about the analysis of causation*. It was predetermined at his creation that Adam would sin iff he does so at every world that both obeys the laws of our world and perfectly matches the history of our world up through the moment of Adam's creation” (p. 8) (italics mine).

Why would Lewis say that the analysis of causation is a red herring? Let me reiterate the pertinent parts of the theory of GMR. First, POR is not a principle that

⁸⁷ For more information on this, see Lewis (1986d, pp. 220-248).

⁸⁸ I should also say that when I discuss agency, I am not defending agency. I am saying what would have to be true of GMR and POR if there were agents.

explains (remember on Lewis' view, explanations are always giving causal information about something) how the plurality "came to be." With this in view, there is already one reason why an analysis of causation would be a red herring in his account of predetermination. It is that GMR is flexible enough to give an account of predetermination without having to settle on any theory of causation. Did God make the all the Adams sin? Did each one of the Adams choose to? None of these are questions that GMR needs to settle (or so Lewis thinks). It is supposed to be enough, that whatever story of causality you give, GMR has the resources to accommodate it. Thus, GMR to a large degree, can be agnostic about causal theories. Well, largely agnostic; it is explicitly bound to the claim that whatever causation amounts to, it must be explained at a world and that a world is sufficient to explain what happens there. But this clearly leaves a lot of room open for discussion.

Pace Lewis, an analysis of causation is not a red herring. It is actually of utmost importance *if there are agents*. Did Adam sin because God made him sin? Did all the Adams across the plurality of worlds sin because of their own choice, or because of some other reason? Let us return to the Clares. POR is supposed to be agnostic on why a lightsaber was constructed, why a technical essay was written, and why a delicious cake was baked. Moreover, isolation "ensures" that whatever the causal story is, a world is sufficient for all explanations.

But why does Clare1 chose to be an academic, Clare2 a Jedi, and Clare3 a baker? A Lewisian response might begin along the lines of Clare1 desiring to be an academic, Clare2 a Jedi, and so on. These were conditions they wanted themselves to satisfy. So my 'why' question is not really important because whatever the causal story is, GMR just

requires plenitude as expressed by POR. However, attitudes *de se* do not help here, if there are agents (I am assuming that desire preceded the actions of the Clares). While the desires of the Clares are not reducible to the world, it is still sensible to ask why the Clares have the desires they do.⁸⁹ Was each Clare born with the particular desires? Did the desires take shape as they lived their lives, making small moral decisions that culminated in the people they were/wanted to be? But now we are going in circles: Lewis insists that there is no need to answer these questions, and I am insisting that we do. So I am going to bring this situation to its sharpest point by the following question.

Could each of the Clares have chosen to bake a delicious cake at their respective worlds? There is a sense in which Lewis would say yes, and that this is represented by the Clare that baked the delicious cake. But that is not the sense in which I am asking the question: I mean could Clare1 herself, Clare2 herself, and Clare3 herself, at each world, bake a delicious cake? And Lewis must answer no, on pain of losing plenitude. This is where the fireworks are and this is precisely the puzzle of plenitude in GMR. And, again, what generates the puzzle is the possibility of agency. I would like to unpack what I think is a driving intuition. It seems that, if the Clares are agents, there is no reason to suppose they could not each bake a delicious cake at their respective worlds. Lewis has simply taken modal language, like “could have,” and claimed that modality is really quantification over worlds and their parts.

This Lewisian analysis is supposed to answer the intuition about the Clares this way. From one point of view, the intuition is exactly right. Each *could have* baked a delicious cake. But this '*could have*' from the previous sentence is really quantifying over

⁸⁹ I am assuming that the Clares are very, very similar counterparts of each other; similar match of origins, etc. So, if their desires are in part shaped by technes, this is of serious causal interest.

worlds and their parts. So, what makes it true that each could have baked the cake is just the Clare who does in fact do it. *Mutatis mutandis* for the construction of the lightsaber and the technical essay. So GMR has satisfied the intuition, while offering a lot more in terms of possibility and necessity via POR.

But has Lewis satisfied the intuition? No, he has bypassed it. If we plug in the framework from chapter 4, we can see why. First, two kinds of modality are in play if there are agents: *tuche*-based modality and *techne*-based modality. These are not reducible to the other. When it seems reasonable to think that each Clare could have baked a delicious cake, what is meant is something like, “could each Clare, employing her array of *technes* reasonably conclude that baking a cake was the best course of action?” Or, in other words, Clare’s choice is not grounded in chance, *tuche*, but reason, *which mitigates the effects of tuche*. This has interesting hidden consequences for the formulation of POR. It seems to imply that what seems so strange about POR is that it reduces agency to chance. That is, it seems tantamount to saying that each world and each choice of each Clare just came out that way, these were just consequences of the chance process.

This point can be made in another way. Let us assume for the sake of argument a principle of recombination for agents. Let’s call it APOR (Agential Principle of Recombination). However it is formulated, it would have to include the idea that whatever an agent can do, an agent in fact does. Then the usual counterpart theory story is inserted.

With this partial construct of APOR in view, let us return to the Clares. Each Clare must choose one of three options: baking a delicious cake, writing a technical

essay, or constructing a lightsaber. Each Clare can reason through the choices before her, but each choice must be made at some world in accordance with APOR. Suppose that Clare1, Clare2, and Clare3 all choose to construct a lightsaber. APOR would say that this is a failure of plenitude of agential choices. Indeed it is. So it is impossible.

But now we have a very strange scenario. Chance was not enough to explain the action of each Clare, so we developed APOR. Let us look at the “moment of enacting the decision” at each world. Since chance is not enough to explain the decisions of the Clares (hence APOR), some force other than the world has to select for each possible outcome; call it *Mysterion*. So, in some mysterious way, *Mysterion* ensures that each agent is free to choose a course of action, while also ensuring that each course of action is selected across the plurality.

I return to this subject in a later section, but for now, I conclude that, if I am right about *Mysterion*, this really just collapses back into POR. If the chance process (which includes physics) is why each world comes out the way it does, and *Mysterion* is a parallel force that explains why each agent chooses what they choose, then *Mysterion* is something very much like chance. So much so, in fact, I think there is no functional difference. And that is the point of the example of APOR. Something other than agents is really selecting the choices, and this something is chance; or, the way the world is and what the world does. So the reason that POR cannot account for agential actions is because agential actions are not reducible to the chance. POR, then, rules out agency theories. But perhaps Lewis has a way out.

I have been using other worlds and other Clares to make my point. Maybe I should be considering this-worldly counterparts too. Lewis (1986d), in his section

entitled *Against Haeccetism*, argues that counterparts can be this-worldly (pp. 220-248). Lewis (1986d) is talking about the possibility of being “poor Fred,” a this-worldly person who can also be considered as a counterpart (p. 231). Lewis (1986d) says that Fred is:

“...my counterpart under an extraordinarily generous counterpart relation, one which demands nothing more of counterparts than that they be things of the same kind. Any property that one of my counterparts does have is a property that I might have; being Fred - being literally identical with him - is such a property; and so there is a sense in which I might have been him” (p. 232).⁹⁰

Let us suppose a Clare is at our world and all other humans here are her counterparts under the relation that we are all human. Suppose Clare constructs a lightsaber.⁹¹ Penelope writes a technical essay. Hank bakes a cake. Maybe we can tell a story about how the choices of other agents, whether this worldly or at other worlds, represent what we could have done. We can replace talk of counterpart relations that emphasize similar origins *et al* with the much wider counterpart relation above. Thus, Hank represents for Clare that she could have baked a delicious cake. Remember virtuous Svyatoslav, whose character was such that he could never rob a bank. Perhaps this-worldly bank robbers represent this possibility for him.

There seems to be a lot to commend this sort of story. Most salient to this discussion is this. If Svyatoslav could never rob a bank, then other this-worldly agents who do rob banks, could represent this possibility for him. This seems to allow room for other agents to come to different *techne*-influenced actions without interfering with those

⁹⁰ Lewis is arguing against haecceitism in this section of the book. I am not concerned here with haecceitism. I am just taking a piece of his argument and adapting it to present purposes in an attempt to motivate another story on Lewis' behalf.

⁹¹ I know, I know; this is not possible here!

of others.⁹² Can some such story help Lewis and preserve POR?

Unfortunately, no such story will help Lewis and preserve POR. This is not a question of introducing more counterparts, but of ontologically distinct kinds of modality. Let's return briefly to APOR. APOR collapses back into POR precisely because chance is the governing "force" behind worlds and their outcomes. If one retains POR and accepts the generous counterpart relation of being of the same kind, the question remains: do agents determine their world and mitigate *tuche* to some degree or not? The problem is that POR implies that it is the world, the chance process, that determines everything. The extent to which there is agency, is the extent to which agents determine their world via *technes*. And the extent to which an agent determines their world is the extent to which POR fails to capture this. So the problem is not solved by introducing more possibilities through a more unrestricted counterpart relation; the question on hand is how possibilities are determined. Those that are enacted via agency evince an ontologically distinct form of modality from those possibilities that are determined by chance and nomological principles.

An important consequence of POR being unable to capture *techne*-based modality is that plenitude is not guaranteed. Or possibly, plenitude does not hold. The reason is that no world fully determines what agents do. Therefore, there can be no principle of recombination that generates all agential outcomes. So all the Clares in the three-world plurality really could all make lightsabers, just as we all at our world could choose not to be murderers.⁹³

⁹² I said earlier that those who are overly dependent on events outside their control are more dominated by *tuche*. This does not mean that there is no *technes* being used by such people. *Tuche* and *techne* are intertwined.

⁹³ The relevant *technes* here are lightsaber construction, and the art of life.

This gets me (2) from Section 3.6. POR only expresses *tuche*-based modality. I have also made the further claim that no such principle could be found for agency (point (3)), but I defend this in the next section. For now, though, I am poised to lay out the two prongs of Beedle's fork reforged. Lewis has two choices here if he wants to keep plenitude. Either he can accept some story of agency and come up with another principle like POR that somehow accounts for agential acts, or he can deny *techne*-based modality altogether.⁹⁴ These are the two prongs of the fork. As to the former, I do not see how this can be done without positing some strange, transworld force like Mysterion. But even if he could find such a principle, he loses isolation. Prong one, I think, is the worst scenario for GMR. I discuss this more in Section 5.2.

So that leaves Lewis the option of rejecting any kind of *techne*-based modality. Lewis then would have to give a story about how science seems to indicate that the chance process is sufficient for all explanations in the world, including persons. Further, this *tuche*-based view of the world is all that is possible. Even further, he would also have to argue that all possible worlds must ultimately be *tuche*-based. Then, he can have plenitude unproblematically because POR would encapsulate the only kind of modality there would be, which is *tuche*-based modality. But there are serious consequences for selecting this option, which I discuss in Section 5.3. The main consequence is that necessarily, there is no agency at any world.

I turn now to the consequences of the fork.

⁹⁴ To be clear. Lewis is a compatibilist and I am agnostic as to whether or not some theories of compatibilism can accommodate the agent causation intuitions. I assume for this dissertation that agent causation and compatibilism are not compatible. Given the general compatibilist thesis, I think it very likely that Lewis would reject *techne*-based modality. So Lewis would want nothing to do with this first prong of the fork. Nevertheless, given the discussion to this point, he does have the option available.

5.2 Consequences for GMR with Agency

In this section, I defend (3)-(6) of my argument. I look at the consequences for GMR if there is agency at any world. I assume for the sake of argument that some sort of APOR could express plenitude for agential choices. If some sort of APOR could express plenitude, then this would imply a violation of isolation, because APOR requires a transworld causal force.⁹⁵ Call it *Mysterion*. If there is transworld causation, then isolation fails. If isolation fails, then the ‘everything is actual’ argument returns (see Section 2.5). However, I then argue that there can be no such APOR that does not collapse back into POR.⁹⁶ If no such principle can be found, and there is agency, then plenitude either fails or is not “guaranteed.”⁹⁷

So let us suppose for the sake of argument that something like APOR was coherent. That is, some version of APOR unproblematically expresses plenitude for chance and agency. Let’s call this transworld causal force ‘*Mysterion*’ because it is still mysterious how APOR would work. It could be that there is some sort of agential analogue to chance that ensures plenitude, or it could be that somehow it expresses plenitude for what agents themselves, through *technes*, do. Regardless, the story below is agnostic on which of these encapsulates what *Mysterion* is. Anyway, if I demonstrate that *Mysterion* is present at all worlds, it is enough to show that isolation fails and everything is actual.

Here is one way of expressing APOR in GMR:

⁹⁵ This is to demonstrate (4) from my main argument: "But even if a POR-like principle could be found, it would violate isolation because such a principle implies transworld causation."

⁹⁶ This demonstrates (3) from my main argument: "No similar POR-like principle can be given for agential modality that does not collapse into POR."

⁹⁷ This demonstrates (5) from my main argument: "If no POR-like principle can be found AND there is agential modality, then plenitude fails or at least is not guaranteed (which is the same as failure for GMR)."

(APOR) Mysterion “adjusts” each world just enough so that plenitude holds.

I framed (APOR) in terms of Mysterion because Mysterion is to (APOR) what the chance process is for POR. Also, I used 'world' instead of 'agents,' because of the transworld butterfly effect (discussed below), which basically means that all worlds are affected by agents. Finally, from Section 5.1, this formulation of (APOR) preserves the point that “whatever an agent can do, an agent in fact does.” I think that (APOR) covers most, if not all, possible ways to account for agency and plenitude in GMR. Let us take a "strong" sense of (APOR), which would mean something like Mysterion is the main force behind each agent's action. This is a major "adjustment," but it is still in the scope of (APOR). Likewise, a "weak" form of (APOR) would mean something like Mysterion "tweaks with" agential actions just enough so that plenitude holds. If I can demonstrate even a weak form of (APOR), that is enough to establish that agency and plenitude means isolation fails. To preserve isolation, either agency must go (see Section 5.3), or plenitude must (Point 5 of my argument).

Let's return to the Clares. Perhaps Mysterion just “helps” the Clares a little bit; it “tweaks” things just enough so that each decision is selected and acted upon by the agents. Each Clare is mostly free to choose, it is just that plenitude must hold. At the "moment of decision" Mysterion "acts on" each world and agent in such a way that plenitude is "enforced." All this sounds quite harmless with this "weak" sense of Mysterion in view.⁹⁸ However, important questions immediately appear here. What role are the agents playing? What role is Mysterion playing? What role is the chance process playing? Before answering these questions, two important points about Mysterion require attention.

⁹⁸ Actually, it sounds crazy. But what in metaphysics doesn't?

First, Mysterion is present at all the worlds. Whatever it is doing to ensure *techne*-based plenitude, it does at all possible worlds (in this case three). Second, it must be causal because it "works with" agents. Agential actions are always causal. Here is an example that brings out both of these points about Mysterion.

Here I explain what I call the transworld butterfly effect. This time, let's assume a ten-world plurality, each of which contains a tree that must fall over in one of ten directions (perhaps because of the wind or something). Each world is exactly identical up until the moment that each tree falls over. Suppose further that only one of these worlds contains an agent. Call him Ken. Suppose Ken can choose, via his *technes*, one of ten options.⁹⁹ He can fell a tree this way, that way, a third way, a fourth way...all the way up to a tenth way. Ken elects to push the tree over the sixth way. Ken himself selects this option via reason and his interrelated set of *technes*, including his lumberjack *techne*. Remember, Ken has done what he has done via *technes*, and *technes* are not reducible to *tuche*. The trees at the other nine worlds must fall down *in the remaining ways!*

The strangeness of this is hard to overstate. It means that Ken took the sixth way off the transworld market, so to speak, leaving the other worlds with the remaining ways. No matter what happens at those nine other worlds, not one of them contains a tree that falls in the sixth direction. Why? And I mean 'why' in the most causal of ways. What I mean is that explanation is not going to bottom out here by saying the other worlds just are the way they are because of the chance process.

The reason why the remaining worlds do not contain trees that fall in the sixth direction *is because* Ken, through *technes*, chopped down a tree and made it fall in the

⁹⁹ I am aware that this is technically a failure of plenitude because plenitude would mean that ten agents select one of the ten options at each world. This example, though, is about the ubiquity of the causal force Mysterion. So, I am setting concerns about plenitude momentarily to one side to make this point.

sixth direction. Whatever initial conditions there are at those other worlds, whatever the story is on how the other worlds came to be such that the sixth way was absent, each world is at least partly determined by Ken's action. This would be true if there ten worlds, as in this example, or one hundred, or a thousand, or a billion. The reason why the sixth way never appears in the rest of the billion-world plurality is because of the one agent Ken.

This is the transworld butterfly effect "in action" if there is Mysterion. So the reason Mysterion is causal is because the other worlds, even those without agents, are partially determined by Ken. More sharply, at the "moment" when all the tree fall in their directions, the trees at the not-Ken worlds do not fall in the 6th way *because of Ken*.

There are (at least) two important points this example shows.

First, and perhaps the strangest, is that Mysterion apparently also "tweaks" with *tuche*. What I mean is that the worlds devoid of agents are *tuche* worlds. Well, they are almost *tuche* worlds. The chance process must now select from the remaining options that Ken took away. This way of speaking is inaccurate because it is not like Ken chopped down his tree *and then* the worlds selected for the ways their trees fall. This just makes the point stranger; how exactly does Mysterion work?¹⁰⁰ Second, plenitude and agency imply that isolation fails precisely because of Mysterion. Since Mysterion is causal, and present at all worlds, then the worlds are causally connected, and from Section 2.5, that means everything is actual. This gets me Point (4) from my argument.

¹⁰⁰ Mysterion's role is made the more complex when considering the role of the "real" plurality of worlds. If there are agents at multiple worlds, and billions at our own, this would have serious effects across the plurality. Consider the Clares as three examples among countless more. Perhaps some story can be told about how, say, Clare1 grows up and Mysterion has made it so that the greater influences in her life were those of, say, Jedi Knighthood. Maybe, cake baking and technical essay writing do not even exist at her world! Or maybe they did, but Clare1 was genetically disposed to Jedi Knighthood (perhaps she has a high midichlorian count?). Or some other sort of story about how Mysterion tweaks with *tuche* just enough to ensure the Clares act in such a way as to ensure plenitude.

So plenitude and agency requires that isolation fails. To recap the story, GMR begins with the view that worlds evince “all different outcomes of the chance process” (the quote is from Lewis (1986d, p. 129)). The chance process actualizes (Section 2.5) worlds. Our world, the actual world, is the way it is because of the chance process in our world formation (leaving temporarily aside questions of agency). Other worlds and their parts are un-actualized (from our standpoint) possibilities and represent ways our world could have been. Each of those worlds is actual at itself. In terms of the dialectic I introduced in Chapter 4, one could say that worlds evince “all different outcomes of *tuche*,” which is what POR expresses. POR’s “enforcer” is just the chance process. Of course, the language of an enforcer can simply be dropped; POR is just a way of formulating all different outcomes of the *tuche* process; of logical space in all its glory.

But with the consideration of agents, the dialectic changed. POR could not express plenitude for agents, as agency evinces another kind of modality, *techne*-based. Thus, (APOR) was "developed." And (APOR) must contain something like “whatever an agent can do, an agent in fact does” in its formulation (Section 5.1). The "enforcer" of such a statement is Mysterion. But, if we drop the "enforcer" talk, (APOR) is just a way of formulating all different outcomes of the *techne* process. But, as we shall see there really can be no (APOR) because (APOR) is just POR in disguise. At this point, it is helpful to return to the three questions from the Clare example. Remember we are assuming plenitude and agency still.

What role are the agents playing? What role is Mysterion playing? What role is the chance process playing? The answer to the first question is "they have no role." The answer to the second question is "there is no such thing as Mysterion because there can

be no (APOR)." The answer to the third question is "the chance process (*tuche*) is playing the *only* role." Or, in other words, (APOR) is just POR in disguise.

The best way to explain is to begin with why (APOR) is just POR in disguise. To begin, the same question of agency arises for Mysterion as for the chance process. That is, one of the big questions of this dissertation has been whether or not the world left to itself is sufficient to account for agential actions. Of course, if one is an agent-causationist, then the answer is a resounding 'no.' Since Mysterion would be the analogue of the chance process, one might ask if Mysterion is sufficient to account for agential actions. So now, we are not asking if agents act via *technes*, we are asking if Mysterion is enough to enforce plenitude, in a parallel way to asking if the chance process is enough to enforce plenitude. The clearest picture of this is the three Clares. Even with (APOR), the demand is the same as with POR: each Clare can only "choose" in such a way that plenitude is satisfied. But note, now we are back in exactly the same place this dissertation started.

What I mean is that we are stuck with the puzzle of plenitude that has been discussed from the beginning of this dissertation: if there are agents and plenitude holds, what happens at the "moment of decision" at each of the three Clare worlds? Changing the name from 'chance' to 'Mysterion' does not help because it is only a name change. To show this, I am now going to demonstrate that the formulation of POR and (APOR) are identical.

What (APOR) requires is something like "necessarily, there is a world in which an agent (one of the Clares) bakes a delicious cake, a world in which an agent constructs

a lightsaber, and a world in which an agent writes a technical essay.”¹⁰¹ But note that this *does not differ in anyway* from the form of POR: “necessarily there is an *x* world, a *y* world, etc...” Now if such a formulation expresses the chance process (*tuche*), and (APOR) is identical in form, then it implies that *tuche* “enforces” it, not Mysterion. This is made all the more clear when it is remembered that there should be no “enforcer” to decide which agent does what anyway because agential actions are defined against *tuche*. An agential action mitigates or eliminates the effects of the world and cannot be reduced to the world.

So if we consider the Clares again, there is no reason why each Clare might not have constructed a lightsaber. And I do not mean this in the sense Lewis expresses in his account of representation *de re* (Section 5.1). I mean that possibly, each Clare makes a lightsaber. I mean that possibly each Clare in the three-world plurality could have constructed a lightsaber, although each one could have chosen instead to bake a delicious cake or write a technical essay. Each Clare, through the employment of the relevant series of *technes*, could have chosen to become a Jedi. The point is that a failure of plenitude is a distinct *possibility*.

In review, there is no “Mysterion” behind (APOR). There is not even an (APOR). (APOR) is an attempt at reducing *techne*-based modality to *tuche*-based modality. So, it is not Mysterion that would tweak with each world just enough to ensure plenitude; it is none other than *tuche*. It is pretty clear this does not make sense if there are agents because *techne*-based modality is defined against its effects on *tuche*.¹⁰² This is why I do

¹⁰¹ Due to the qualitative/de re distinction, this formulation does not specify which world must be which, just that whatever ways the worlds came to be, each of these comes to pass somewhere.

¹⁰² It is important to reiterate that I am not saying all decisions by agents are purely *technes*. For example, suppose I grew up in feudal Japan. In effect, *tuche* has determined where I am and also, because of the era,

not think it possible to get (APOR). The point is just that each of the three Clares really could bake a delicious cake, and there is absolutely no guarantee of plenitude. If plenitude holds, it *might not have*. This is just part of the meaning of agential modality. This gets me Point (3) and (5) from my argument. So what happens then if a genuine modal realist decides to abandon plenitude?

It seems like there now might be a good reason to; the genuine modal realist could now keep agency and isolation. She could keep isolation because she is not demanding that all outcomes of agential choice be actual at some world. Agents really determine (at least sometimes) what sort of world they inhabit. The cost is just plenitude. Now, I think (5) is established. But one might wonder why one should believe in a plurality of worlds now. It was supposed to be an abductive argument that offered *inter alia* a full analysis of possibility that provided a paradise for philosophers. But now, the plurality does not represent *every* possibility....just like our own world. And that means that, at least sometimes, modality is not quantification over worlds, because sometimes there are no worlds to represent the content.

So it seems like the genuine modal realist really has one option. If a genuine modal realist wants to hold onto plenitude, then he better deny agency at any possible world. This is so because there would be no way to accommodate *techne*-based modality, since any such attempt either falls back into POR, or results in a failure of plenitude.¹⁰³

certain professions would be precluded like being an astronaut or an airplane pilot. So, in some sense, *tuche* has limited my array of options (and also expanded them...I could not be a samurai today for example). But I can still employ my *technes* to some degree. The point is just that there are some decisions and courses of actions that are deliberate acts of reason if an agency theory is to hold.

¹⁰³ If a version of GMR wanted to keep agency, I suppose a story could be told about how plenitude does not hold. Or, in other words, that it is not the case that plenitude is necessary. This might give some room for isolation, because the plurality of worlds would not need to be "full." Such a move would require an abandonment of the necessity of the plurality. Remember, Lewis considers the plurality a necessary truth. But this seems largely based on plenitude. For very different reasons, Josh Parsons (2012) suggests that

To sum up this section, there are serious consequences for attempting to combine GMR and agency. First, assuming it even possible, this would imply transworld causation and the transworld butterfly effect. In effect, everything would be actual because isolation fails. From Section 2.5, Lewis admits that if he had to admit everything was actual, it would signify a grand defeat for GMR. This gets me (4) from my main argument. But, if one chooses to keep GMR and agency, and reject plenitude, then motivation for GMR is largely lost (5).

Really, however, agency and plenitude are incompatible because (APOR) cannot express plenitude for *techne*-based modality without turning it into *tuche*-based modality (3). That is, (APOR) is really just POR in disguise. But if one wants to keep POR, then one has to abandon agent causation views for the whole plurality of worlds (6)! This section has demonstrated, then, that the holder of GMR really only has one option, and that is to deny agency altogether. The next section deals with the consequences of this course of action.

5.3 Consequences for GMR without Agency

In the last section, I argued, *inter alia*, that one of the fallouts of rejecting agency is that there could be no agency at any possible world. I have also argued that *techne*-based modality is not captured by or reducible to POR. As a consequence, if one insists on being a genuine modal realist and accepting plenitude, then this implies that there is no agency at any world. This is the second prong of the fork.

This is a startling consequence of GMR. Those who are disinclined to accept agency might not find this so startling or even problematic. But I am going to argue that even if

denying the necessity of the plurality of worlds is a coherent option for the genuine modal realist.

one does not accept agency at THIS world, GMR is the wrong sort of argument to conclude that ALL worlds are devoid of it.

To begin, let's first consider yet another jarring consequence of GMR. One of the classic inquiries of metaphysics is why there is something rather than nothing. Or, could it have been the case that there was nothing rather than something (I'll explain this shift in the question later)? Lewis (1986d) answers this way: "If a world is a maximal mereological sum of spatiotemporally interrelated things, that makes no provision for an absolutely empty world...there isn't any world where there's nothing at all. That makes it necessary that there is something" (p. 73). By itself, this does not mean much more than necessarily, every world has something. But then Lewis (1986d) explains the "jarring consequence" I referred to:

"...nothing isn't a very minimal something. Minimal worlds there can indeed be. There can be nothing much: just some homogeneous unoccupied spacetime, or maybe only one single point of it. But nothing much is still something, and there isn't any world where there's nothing. That makes it necessary that there is something. For it's true at all worlds there is something: it's true whenever we restrict our quantifiers to the domain of parts of a single world, even if the only part of some world is one indivisible nondescript point. Of course, if we don't restrict quantifiers from the standpoint of one world or another, *then all the more is it true that there is something rather than nothing: there is logical space, the totality of worlds in all their glory.* How bad is this?" (p. 73) (italics mine).

Lewis (1986d) answers his question by saying that he is not explaining why there is something rather than nothing (p. 73). Because he is not answering this latter question,

Lewis (1986d) thinks this consequence of GMR is not so bad (pp. 73-74).¹⁰⁴ This, by the way, is why I shifted the question above. Lewis is not answering the question of *why* there is something rather than nothing, but rather, *could* there have been nothing. To this he answers no. In summary, and a bit crudely: necessarily, the plurality of worlds. It could not have been the case that there was nothing.

Depending on one's perspective, this could be great news that a theory is able to make significant progress in an area of philosophical inquiry. Others might think that GMR is not the right kind of theory to settle such an inquiry. Whichever way one goes, GMR requires a response because it begins with what exists and attempts to account for modality. There is no clear reason why Lewis cannot make this move. The person that thinks GMR is not the right kind of theory to settle such a question would have to begin by, say, showing that existence has ontological distinctions such that they cannot be compared in the way GMR requires. I have no idea what this would look like, by the way.¹⁰⁵ My point is that one might think that just as GMR has made significant progress in this area of philosophy, so too it has made significant progress in clearing up the agency debate. So in a similar way, one might think that GMR requires a response because there is no clear reason why it cannot make progress here too. If GMR has the consequence that there is no agency at any world, this can be lumped in with the great benefits of Lewis' theory and the onus is on the dissenter to show why GMR cannot have this consequence.

But there is a serious disanalogy here. The disanalogy consists in an analysis of

¹⁰⁴ For more on Lewis' views of causal explanation, see: Lewis (1986b).

¹⁰⁵ But Kris McDaniel (2010) might be able to help. He argues for kinds of existences, or ways of being. Interestingly, at the end of his chapter, McDaniel (2010) applies his discussion to Lewis' modal realism showing how it could actually help Lewis (pp. 315-316).

quantifiers and what they can range over on the one hand, and agency on the other. Whether one looks around or considers her own personal existence, it is virtually not contested that something exists.¹⁰⁶ More, it seems that whatever exists, can be quantified over (even if there are different kinds of existence). But, do agents at least sometimes determine the sort of world in which they live? Or not? This debate is nothing like the existence and quantification debate. The reason GMR can get very good results for the puzzle of existence is because GMR assumes the existence of many things, all of which can be quantified over. These are very reasonable assumptions.

However, it cannot get a good result with agency because the debate here is largely unsettled. What I mean is that it is virtually incontrovertible that stuff exists; it is very controversial whether or not there are agents.¹⁰⁷ Because this is such a clouded issue, GMR cannot settle the debate without some kind of argument. In fact, GMR, if it wants to keep plenitude, will have to argue very explicitly that there could be no such thing as agency at any world. As it is, POR describes *tuche*-based modality, and, as I argued, there is no way it can capture *techne*-based modality. Of course, it is very debatable whether or not there is a *techne*-based modality; but that is the same thing as saying that it is debatable whether or not there are agents. In this regard, there is nothing in GMR that deals with the puzzle of agency at all; as such, it can settle no debates about agency. The

¹⁰⁶ There are those who would argue that all is illusion, or that reality (by which is usually meant our perception of the world around us) is false. However, I will say with Descartes that even if we are horribly deceived, there is still something, me, being deceived. There is something rather than nothing.

¹⁰⁷ There are other ways to make the point that GMR can settle the existence issue, but not make parallel progress with agency. One might argue that the issue of whether there could have been nothing instead of something is opaque and convoluted; GMR can settle it, if it wants to. But it is obvious and clear that we have agency, so this cannot be given up to GMR. To make this point, one would have to be convinced that 1.) the something rather than nothing issue really is convoluted, and 2.) that agency is obviously true. But to do this, one would have to argue strongly on behalf of agency. I am not doing that here. Also, I think the opposite: I think the something rather than nothing issue is quite clear, but the agency issue is very, very murky. I would like to thank Katherine Hawley for discussion on these points.

upshot of this is that, if the Lewisian goes the route of saying there is no agency at any world, this is little more than a bald assertion because there is nothing in GMR that can settle the agency debate.

It might sound like I am saying that Lewis and Lewisians have no arguments for there being no agency. I am not. But they will be convinced on empirical and philosophical grounds of such views of agency. And this is precisely the point; the debate about agency has to be settled *apart from* GMR because POR only accounts for *tuche*-based modality. Or more accurately, plenitude is only possible with *tuche*-based modality. Returning to the prong of the fork: GMR requires that there could be no agency at any possible world if plenitude is to hold. This is a stunning consequence for a theory that has nothing in it to settle the agency debate at our world, much less all the worlds of the plurality.

There is another angle from which to look at this too. Suppose that it was definitively proven that at our world, there is no such thing as agency. No doubt, and no debate about it. Would this make GMR more palatable? It would seem so, on the one hand. It would seem that plenitude would not need to account at all for *techne*-based modality because, at least at our world, there is no such thing. Since our best theories about the world would then be devoid of agential considerations, we would have no reason to incorporate this into our philosophizing about the plurality of worlds. Or would we?

Lewis (1986d) said that:

“As the realm of sets is for mathematicians, so logical space is a paradise for philosophers. We have only to believe in the vast realm of *possibilia*, and there we find what we need to advance our endeavours. We find the wherewithal to

reduce the diversity of notions we must accept as primitive, and thereby to improve the unity and economy of the theory that is our professional concern - *total theory, the whole of what we take to be true*" (p. 4; italics mine).

I take Lewis to mean that GMR provides the resources and flexibility to unify and systematize into one coherent master theory all the theories and disciplines. All these theories and disciplines would now have one less problem: the agency debate. POR, now, accommodates our best theories about the world. Returning to my question: "Or would we?" We would, I think. Even if we definitively proved there was no such thing as agency at our world, the fact remains that agency is not obviously an incoherent idea. Otherwise, how would we have been deceived by it for so long?

The Lewisian might argue that agency was a grand illusion and a long-entertained fiction. Just because it seemed possible did not make it so. As Lewis (1986d) has said, "imaginability is a poor criterion of possibility" (p. 90).¹⁰⁸ If our world has no agency, POR should get points for expressing modality without the burden of long-entertained fictions. The upshot of this thought experiment is that if it was shown there is no such thing as agency at this world, perhaps there would be no reason to suspect that it is plausible at any world.

My response is that even if there were no agency at our world, GMR does not get points for keeping it out of the theory. It was only shown that our world was devoid of agency. It would be bad empirical science to take one world and generalize to all worlds, as it would be bad empirical science to conduct an experiment once and generalize the results. Actually, I misspoke. There is no such thing as empirical science across worlds

¹⁰⁸ Some philosophers would dispute this claim and say that imaginability is a good criterion of possibility. One such philosopher is David Chalmers (2011).

given isolation: there is no observation, no repeatable phenomena, no experimentation that can be done across worlds.¹⁰⁹ But this just reinforces my point that POR, and GMR generally, cannot settle any debates about agency. Since one could not use empirical methods in any way to garner support for the theory, purely philosophical methods must be employed. Such methods will examine the coherency of agency, and, indeed, there seem to be plenty of theories of agency that are in fact coherent. They are wrong in this thought experiment, but they are coherent. They, therefore, cannot be ruled out when considering the plurality of worlds. The genuine modal realist would have to find ways of arguing that any kind of agency theory is, in fact, incoherent. *Then* she could have POR.¹¹⁰ And this brings us back to reality: it has not been definitively shown that our world is devoid of agency and GMR contains nothing to warrant the hidden conclusion that at no world could there be agency.

While denying agency is the better bet for the Lewisian, the cost is still too high because GMR is not the right kind of argument to deny agency at all possible worlds. The possibility of agency costs GMR its neutrality on the issue. Specifically, POR is not flexible (or “objective”) enough to accommodate agency.

¹⁰⁹ Here is another interesting point. Let’s continue to suppose our world is devoid of agency. Can one empirically be certain that the physics of our world couldn’t produce agents? Much less the set of worlds with our physics? Still less, the physics of all the worlds in the whole plurality?

¹¹⁰ I have serious doubts about the existence of any such arguments. But my point is that there is work to do in justifying POR, which excludes agency.

Chapter 6: Conclusion and the Reforging of Beedle's Fork

Beedle's original fork neglected the qualitative/*de re* distinction and isolation respectively. The result was that his sense of modal fatalism was that each particular world was necessarily the way it is and could not have been otherwise. In his other argument from counterfactual causation, he tried to show that our desire for our world to be certain ways was simultaneously a desire for other worlds to be other ways. But this was shown to be problematic as well. On the one hand, one is not required to worry about other worlds given isolation; and on the other hand, without a transworld connection across worlds, desires about other worlds are pointless.

However, the governing intuition behind his concern is, I think, very good. He is concerned that in some way, GMR requires a drastic revision of how we see ourselves as agents. What I have done is to attempt to show how.

I did so by arguing if there is such a thing as agency, then another kind of modality is thereby implied. Here, again, is the argument I used:

- (1) According to many theories of agency, agential actions are of a qualitatively different kind of modality than chance-based modality.
- (2) But POR in GMR only accounts for "chance-based" modality.
- (3) No similar POR-like principle can be given for agential modality that does not collapse into POR.
- (4) But even if a POR-like principle could be found, it would violate isolation because such a principle implies transworld causation.
- (5) If no POR-like principle can be found AND there is agential modality, then

plenitude fails or at least is not guaranteed (which is the same as failure for GMR).

(6) If there is no such thing as agential modality, and POR is correct, then GMR implies no agency at any world; necessarily, there is no agency (from (2)).

(Conclusion) If there is agency and GMR holds, then plenitude fails, or isolation fails (from (4), (5)). But if there is no agency, and GMR holds, then necessarily there is no agency at any possible world (from (2), (3), (6)).

I argued for (1)-(2) by explaining that if there is such a thing as agency, then this can be expressed via *techne*-based modality. *Techne*-based modality is of a fundamentally different kind than *tuche*-based modality. *Techne*-based modality cannot be reduced to *tuche*-based by definition, since *tuche*-based modality is rooted in chance, while *techne*-based modality is based on deliberate application of reason that mitigate the effects of *tuche*. Therefore, if there is such a thing as agency, a world is insufficient to account for everything that happens at worlds with agents.

I argued for (3) by saying that POR cannot express agential possibilities because they are not reducible to the chance process. I argued for (4) by saying that even if a parallel formulation of agential plenitude, APOR, could be articulated, isolation would fail because of the transworld butterfly effect. If isolation fails, then everything is actual.

If no APOR could be formulated, and there is agential modality, then a consequence of this is (5); there is no guarantee that plenitude holds with regard to agential actions. Each of the Clares, for example, could have each decided to bake a delicious cake. That is, if there is agency and one wants to preserve isolation, then one must reject plenitude.

If there is no such thing as agential modality, and POR is correct, then GMR implies that there are no agents at any world (this is (6)) on pain of the consequences of

(4) and (5).

So the two prongs of the fork I replaced Beedles' with are these. If there is agency, then either one loses plenitude in order to keep isolation, or one loses isolation in order to preserve plenitude. The second prong of the fork is to simply abandon agency with all its talk of *techne*-based modality. The consequence being that no world contains agents. The problem with this is that GMR is the wrong sort of argument to settle the agency question one way or another. This sums up (Conclusion).

I think what Beedle *et al* were wrestling with is the connection between agency and modality. It was assumed that modality is of a kind, and trying to discuss necessity and possibility without these ontologically distinct categories of modality proved very difficult and confusing.

Moreover, Beedle in his arguments left out important considerations. Specifically, he did not take into account the qualitative/*de re* distinction, and he did not argue for a causal link across worlds for his argument from counterfactual causation. So he could not get fatalism on the one hand, or an ethically questionable sense of agency on the other.

What I did was to show the heart of the problem is POR and how there could be no such principle to govern agency. So on my view then, 'no agency at any world' is my replacement for Beedle's modal fatalism prong of the fork. And if there are agents together with plenitude, then there is a transworld causal link; this replaces Beedle's argument from desire (his counterfactual causation argument).¹¹¹ This is Beedle's fork reforged.

¹¹¹ Or a genuine modal realist can keep agency, but deny plenitude. But then, what is the motivation for GMR on this option?

6.1 Assessment of the Effects of Beedle's Fork Reforged on GMR

Beedle's fork reforged places GMR in hot water. One of the things that made GMR so attractive was its neutrality and flexibility with regard to agency. It was supposed to have the resources to accommodate any theory. The grounding for this neutrality and flexibility was that modality was of a kind. However, if there are such things as agents, then POR is neither flexible enough to accommodate agency, nor is it neutral about agency. It is not flexible enough to accommodate agency because POR does not cover the right kind of modality to "range over" agential actions.

It is also not neutral because the theory requires that either there are no agents, or plenitude is not guaranteed. Clearly, in order to retain much of its initial attraction, the theory should keep plenitude. After all, what's the point of an ontologically expensive theory if it does not even cover the costs of all possibilities? But keeping plenitude requires either a transworld causal force, or a denial of agency at all worlds. The best option for GMR is the latter, but this is the point: it is no longer neutral with regard to agency. GMR can give us a philosophers' paradise only if it bars agency from the discussion. But this is not the right argument to bar agency.

In summary, Beedle's fork reforged reveals what seemed so strange about GMR and agency. GMR requires a drastic shift in how we think of ourselves as agents. The key to understanding how was to unpack what it means to say that agency is a causal force in the world. Since agency is of a different causal order than the chance process, it has an ontologically distinct modality too. POR simply cannot accommodate such a modality. This causes the loss of neutrality and flexibility on the part of GMR.

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