Abstract

This dissertation is about the epistemology of metaphysics. I have two goals for this project. My first goal is both to show that we can have epistemically justified beliefs in metaphysics and also to show how we come to have justified beliefs in metaphysics. In showing how we come to have justified beliefs in metaphysics, I will say much about methodology in metaphysics. Some of what I say about methodology will be descriptive. However, much of what I say will be prescriptive. This leads me to my second goal. My second goal is to argue for a particular methodology in metaphysics. The methodology that I will develop and defend will bear some relevant similarities with the scientific method. It will be an extension of the theory of justification that I develop.

Before I proceed to give a chapter by chapter summary, I'll say a little to motivate the project. In recent years, there has been a movement to "naturalize" metaphysics. A notable instance of this trend would be *Everything Must Go: Metaphysics Naturalized* by Ladyman, et al. The project of naturalizing metaphysics is in part a methodological project whereby the means by which we come to metaphysical are constrained by scientific methodology. Under this project, metaphysics is seen more or less as a branch of philosophy of science. One implication of this project is that beliefs in many propositions associated with traditional metaphysics come out to be unjustified. This dissertation attempts in part to provide a defense of what Ladyman et al (pejoratively?) call "Neo-scholastic" metaphysics. Neo-scholastic metaphysics holds that beliefs In many of the propositions associated with traditional metaphysics can be *a priori* justified.

The first chapter of the dissertation gives clarification on some central terms, including the notion of epistemic justification. It also provides additional motivation for the dissertation. The second chapter develops an account of epistemic justification for beliefs in metaphysical propositions. According to this account, some individual x is justified in believing some metaphysical proposition p if p has a metaphysical explanation. Most of the chapter is devoted to developing an account of metaphysical explanation and arguing for its role as a form of justification. Chapter three discusses the notion of *a priori* evidence and the role that it plays in metaphysical explanation, as well as justification in metaphysical beliefs. After some time spent discussing the notion of *a priori* evidence, the chapter goes on to defend the idea of *a priori* evidence against various skeptical arguments, some of which come from the naturalized metaphysics movement. Chapter four examines another threat to justification in metaphysical beliefs: peer disagreement. After surveying views on what peer disagreement amounts to, the chapter proceeds to show that peer disagreement is no threat to justification. Chapter four ends by discussing the idea of progress in metaphysics. This segues into the focus of chapter five, which is to consider how progress might be made in contemporary analytic metaphysics. After reviewing what is generally considered to be the methodology in contemporary metaphysics, I explain why progress in metaphysics is often stymied, and go on to suggest a different plan of action that I argue is a promising line of research development in metaphysics.

A Metaphysician's User Guide:
The Epistemology of Metaphysics

by

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Chapter I: Introduction

0. Introduction

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project. My first goal is both to show that we can have justified beliefs in metaphysics and also

to show how we come to have justified beliefs in metaphysics. In showing how we come to

have justified beliefs in metaphysics, I will say much about methodology in metaphysics. Some

of what I say about methodology will be descriptive. However, much of what I say will be

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methodology in metaphysics. The methodology that I will develop and defend will bear some

relevant similarities with the scientific method. It will be an extension of the theory of

justification that I develop. This introduction will serve primarily as motivation for my project.

Section one will serve to motivate my first goal. Section two gives some clarifying remarks on

epistemic justification. The third section will clarify and motivate my second goal. Section four

will give a quick rundown of the rest of the dissertation.

1. Skepticism about contemporary analytic metaphysics

At first glance, it seems that the goal of showing that beliefs in metaphysics can be

justified is uninteresting. It might seem to some that it is rather obvious that such beliefs can

be justified. While there may be many who share this opinion, there are others who disagree.

Some are skeptical that the metaphysics done by self-identifying metaphysicians at various

universities around the world is a legitimate epistemic enterprise.[1] That is, they are skeptical

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[1] This is but one kind of hostility towards contemporary analytic metaphysics. The reader is probably aware of other forms of hostility, particularly semantic forms. Here, opponents might argue that metaphysics is illegitimate because the language it employs is somehow unintelligible or its debates are non-substantive. See Logical Positivists for the first and Eli Hirsch and other contributors to *Metametaphysics* for the second.

that metaphysics produces knowledge, or even justified beliefs. James Ladyman, Don Ross,

David Spurrier, and John Collier describe their book, *Everything Must Go: Metaphysics*

Naturalized, partly as follows:

> One of its main contentions is that contemporary analytic metaphysics, a professional activity engaged in by some extremely intelligent and morally serious people, fails to qualify as part of the enlightened pursuit of objective truth, and should be discontinued.[2]

James Maclaurin and Heather Dyke argue the following in their paper, "What is Analytic

Metaphysics For?"

> We set out various ways in which intellectual endeavours can be of value, and we argue that in so far as it claims to be an ontological enterprise, non-naturalistic metaphysics cannot be justified according to the same standards as science or naturalistic metaphysics.[3]

Uriah Kriegel expresses some epistemological concerns in his paper, "The Epistemological

Challenge of Revisionary Metaphysics."

> It does seem to me, however, that given the prominence of revisionary metaphysics in current philosophical practice, its epistemological underpinnings are disconcertingly underdeveloped. With this in mind, I wish to prosecute systematically an epistemological challenge to revisionary metaphysics.[4]

Finally, Tim Maudlin begins his book, *The Metaphysics Within Physics*, with the following claim

about metaphysics.

> The basic idea is simple: metaphysics, insofar as it is concerned with the natural world, can do no better than to reflect on physics. Physical theories provide us with the best handle we have on what there is, and the philosopher's proper task is the interpretation and elucidation of those theories. In particular, when choosing the fundamental posits of one's ontology, one must look to scientific practice rather than to philosophical prejudice.[5]

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[2] Ladyman et al. (2007) p. vi.
[3] Maclaurin and Dyke, (2011) p. 291.
[4] Kriegel, (2013) p. 2.
[5] Maudlin, (2007) p. 1.

Each of these individuals roughly share a certain conception of metaphysics, and that conception is the target of their skepticism. This type of metaphysics has been referred to as "non-naturalized," "contemporary analytic," "Aristotelian," or "revisionary." Furthermore, this conception of metaphysics is typically contrasted with what is known as "naturalized" or "Neo-Positivist" metaphysics. What is it that distinguishes the two?

The primary distinction between the two kinds of metaphysics has to do with their relationship with science. Naturalistic, or what I will henceforth call "Neo-Positivist" metaphysics[6] works within the general conceptual framework employed by science. Furthermore, Neo-Positivist metaphysics limits its field of inquiry to this framework. It does not seek to answer questions or make ontological claims that are neither useful to science nor verifiable by science. In doing so, the Neo-Positivist metaphysician hopes to share in the epistemic security enjoyed by the scientist. Whatever it is that justifies scientific beliefs, the Neo-Positivist will argue also justifies in some direct or indirect way the beliefs associated with Neo-Positivist metaphysics.

Non-Naturalistic, or what I will henceforth call "Revisionary" metaphysics also works with the general conceptual framework employed by science. However, the field of inquiry extends beyond this scientific framework. The Revisionary metaphysician will attempt to answer questions or make ontological claims that may not be useful to or verifiable by science. Moreover, the Revisionary metaphysician will argue that the results of inquiries that go beyond the framework or interests of science can be epistemically justified, or even be considered knowledge. This last point highlights the distinction between the two kinds of metaphysics that

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[6] See Ney (2012) pp. 53-54.

is relevant for this project. The Neo-Positivist argues that the claims made and argued for by the Revisionary metaphysician that somehow go "beyond" science are not epistemically justifiable. By going "beyond" science, what I mean is that some claim or theory receives its evidential support from sources other than the current body of scientific knowledge, claims that are in principle confirmable via scientific observation, or the practice of scientists. Such sources are what some might call "armchair" or "a priori" methods. The Revisionary metaphysician, on the other hand, will argue that such claims, i.e. claims supported via armchair methods, are indeed epistemically justifiable. I side with the Revisionary metaphysician.

Some examples may be helpful in illustrating the difference between the two views of metaphysics. An example of a claim that Revisionary metaphysicians will investigate that is "beyond" science would be the claim in mereology that there are no composite objects. The defender of such a claim, i.e. the Mereological Nihilist, has traditionally argued for it primarily through a priori methods. Neo-Positivist metaphysicians will hold that such claims are not justifiable. Consider Ladyman et al, who in discussing Trenton Merricks and his book, *Objects and Persons*, note the following:

> So, according to Merricks, as a metaphysician he is entitled to take as a premise for his arguments a claim about (what he takes to be) a matter of physical fact (that the world decomposes into atoms). On the other hand, the metaphysician apparently need not know anything about physics in order to make assertions about whether physicists are ontologically confused. As we discuss in detail in Chapter 3, none of the main contending theories in fundamental physics give the slightest encouragement to Merricks's conviction that the world is mereologically composed of any little things at all. But the point is that Merricks doesn't think this matters. All that does matter for metaphysics, it seems, is that people who know just a bit of superficial science are

comfortable with thinking about a world made out of ultimate little things and collisions amongst them.[7]

We can contrast this with another example, this time concerning claims about laws of nature.

Maudlin, in his (2007), defends the claim that laws of nature exist as fundamental entities, i.e. not reducible to some mosaic of instantiated properties characterized by David Lewis's Humean Supervenience thesis. Debate regarding such a claim would be deemed kosher by the Neo-Positivist. In arguing for such a claim, Maudlin can appeal to the practice of science, as he does in the following:

> But in the choice between the [Humean and non-Humean] packages, my own motivation is nothing more complicated than methodological conservatism. The non-Humean package is, I think, much closer to the intuitive picture of the world that we begin our investigations with. Certainly, the fundamental asymmetry in the passage of time is inherent in our basic initial conception of the world, and the fundamental status of the laws of physics is, I think, implicit in physical practice. Both of the strands of our initial picture of the world weave together in the notion of a productive explanation, or account, of the physical universe itself. The universe, as well as all the smaller parts of it, is *made:* it is an ongoing enterprise, generated from a beginning and guided towards its future by physical law. The Humean must, at the most foundational level, reject this picture. That of course is no proof that the Humean is wrong: many of our most cherished initial beliefs about the world have been overturned by scientific theorizing. But I don't think that *scientific results* have, as yet, impeached the basic non-Humean picture, and no *philosophical arguments* give us reason to displace it.[8]

According to the Neo-Positivist, claims regarding the ontological status of laws of nature are ones that may be epistemically justifiable, as they receive their evidential support somehow from science.

The upshot of all this is to show that there is some resistance to the notion that beliefs about the sorts of claims associated with Revisionary metaphysics can be justified. As such, there is some motivation to address this skepticism. I will argue that beliefs in the claims

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[7] Ladyman et al, (2007) p. 22.
[8] Maudlin (2007) p. 182.

commonly associated with Revisionary metaphysics (Henceforth, I will simply call these "revisionary metaphysical beliefs.") can be justified. In particular, I will argue that the sorts of beliefs in Revisionary metaphysics that incur a skeptical response from Neo-Positivists can be epistemically justified. In arguing for this, I will develop a theory of epistemic justification for revisionary metaphysical beliefs. Developing such a theory will require the laying of some conceptual groundwork. In particular, I need to be clear on what epistemic justification is in order to show how my theory confers justification and in order to argue that metaphysical beliefs can be justified. I proceed to do this in the next section.

2. Epistemic Justification

When talking about epistemic justification, we can approach it from two different levels. There is first order justification. Questions about first order justification deal with whether or not some individual is justified in believing some claim. Then there is second order justification. Questions about second order justification deal with whether or not the means by which an individual comes to justify her belief in some claim is itself something that is justification conferring. For example, some individual x forms the belief that it is raining outside. We can ask whether that belief is justified. This would be a first order justification question. Continuing with the example, x might claim that her belief that it is raining outside is justified on the basis of her seeing that it is raining outside. We can then ask whether the faculty of vision is something that indeed confers justification to the appropriate beliefs. This is a second order justification question. In this project, I will show how my theory confers first order justification. I will also argue for the theory. This will be a second order justification issue.

I'd like to make a few more clarifying comments about first order justification. Before getting into that, I'll need to say something about beliefs. Beliefs are attitudes about propositions that we can possess with more or less confidence. For instance, I believe that there is a computer screen in front of me. I also believe that the genre of science fiction is objectively better than the genre of fantasy. I am considerably more confident in the first belief than I am in the second. These varying degrees of confidence are what is known as "credence."[9] A credence of a particular belief in some proposition p is usually measured between zero and one. A credence of one means that the belief in p is certain. A credence of zero means that the belief in not-p is certain. A credence of 0.5 means signifies a state of true agnosticism with respect to p.

I distinguish between two kinds of credence: descriptive credence and normative credence. Descriptive credence is the credence that an epistemic agent actually has with respect to some proposition p. Normative credence is the credence that an epistemic agent *should* have with respect to some p. An example of this distinction might go something like this. Suppose that Bob is a convicted criminal. Bob is a bad guy overall, being convicted of assault, theft, destruction of property, and various other felonies. Bob's mother is aware of the convictions but is in a state of denial. She believes that Bob is an innocent man. Her descriptive credence for this belief is very high, let's say 0.9. However, her normative credence for this belief is far lower, perhaps around 0.2. Although her credence for the proposition that Bob is innocent *is* very high, her credence for said proposition, given the evidence, *should* be very low.

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[9] The *Stanford Encyclopedia of Philosophy (SEP)* entry on Epistemic Utility Arguments for Probabilism is a good place to start for a discussion on credence.

First order epistemic justification is the modification of an epistemic agent's normative credence of some *p*.[10] Anything that positively modifies one's normative credence of p is what I call a *justifier* of one's belief in *p*. Justifiers come in many forms. Justifiers can be a set of antecedently held beliefs or knowledge. They can also be a variety of mechanisms that generate beliefs.

Conditions for justification are fairly simple under this view. Some epistemic agent x is justified in believing *p* just in case x's normative credence of *p* is greater than 0.5. How does a justifier affect normative credence? Why *should* we believe *p* on the basis of some justifier? Justifiers affect normative credence in various ways. A justifier can affect normative credence by way of deduction. The claim that all dogs are mammals and that Fido is dog, along with the appropriate rules of inference, serve as justifiers for my belief that Fido is a mammal. Deductive inference is one way in which normative credence can be affected. Alternatively, a justifier can affect normative credence by increase of probability. For instance, various forms of inductive inference, like believing that germs cause sickness on the basis of past observations relating germs and sickness, can raise our normative credence for such beliefs.

Just as confidence in beliefs admit of degrees, justification also admits of degrees. Justifiers can differ with respect to the extent of normative credence modification. Suppose that I believe that it is raining outside. My normative credence of this belief would be made higher if I looked out of the window and saw that it was raining than if I had looked at the weather report online. Justifiers can also be additive. My normative credence of the belief that

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[10] This way of talking about justification seems to diverge somewhat from the standard story given in the *SEP* entry on Epistemology. There, the distinction is made between Deontic and Non-Deontic conceptions of justification. The account here is closer to the Non-Deontic (i.e. Probabilistic) theory of justification. I prefer the notion of normative credence because it highlights the possibility that an agent's set of actual beliefs differs from beliefs that she is justified in having. Not a lot hangs on the details about first order justification, however.

it is raining might be higher still if I both looked at the weather report and looked out of the window. Therefore, one can be highly justified in believing some p, or just slightly justified in believing *p*.

Justification is dynamic and can fluctuate over time.[11] The loss of justification is called "defeat."[12] Defeat can occur in at least two ways. One way is for the justifier to lose its efficacy as a normative credence modifier. For instance, I might see that there is a rainbow outside and form the justified belief that there is a rainbow outside. Suppose, however, that I ingested a drug that I later discover has hallucinatory effects. The hallucinogen affected my vision, causing me to see things that were not really there. Therefore, the increase to my normative credence brought on by my previously seeing the rainbow has been negated, and thus my previous justification for believing that there is a rainbow outside has been defeated. This type of defeat is called "undercutting" defeat. Undercutting defeat is a second order justificatory issue. An undercutting defeater gives us some reason to think that the justifier no longer justifies. Addressing this kind of defeaters requires an evaluation of the efficacy of the justifier in justifying beliefs at the first order level.

Another way for justification for *p* to potentially be defeated is to obtain justifiers for not-*p*. Suppose that I am a police detective. I might believe that the cause of a particular death was murder on the basis of a testimony given by one medical examiner. This belief could be *prima facie* justified. Suppose, however, that another medical examiner examines the body and concludes that the cause of death is not murder. Suppose also that both examiners are equally

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[11] See Richard Swinburne, *Epistemic Justification* (2001) ch. 7 on diachronic justification.
[12] See John Pollock, *Contemporary Theories of Knowledge* (1986) pp. 38-39 on epistemic defeat and the distinction between undercutting and rebutting defeaters.

competent and had access to the same information. My previously justified belief that the cause of death is murder is now threatened to be defeated. This kind of defeat is called "rebutting" defeat. It occurs when I am given evidence to the believe not-*p* when I am already *prima facie* justified in believing *p*. Rebutting defeat is a first order justificatory issue. The issue here is not whether my justifiers are somehow defective, but rather is about cases where similarly legitimate justifiers support conflicting claims.

Neo-Positivist skepticism about Revisionary metaphysics can be understood in two ways. First, Neo-Positivists can argue that justification for revisionary metaphysical beliefs has been undercut. Put another way, Neo-Positivists might hold that justification for revisionary metaphysical beliefs is defeated because of some fatal defect in the justifier. For instance, Neo-Positivists will identify intuition as a common justifier for revisionary metaphysical beliefs, and then proceed to show how intuition is somehow illegitimate as a justifier.[13]

Second, Neo-Positivists can argue that justification for revisionary metaphysical beliefs has been rebutted.[14] How this is done is by noting how long many metaphysical debates have persisted without any sign of resolution. In the face of such persisting disagreement, the Neo-Positivist can argue for the application of what is known as the "conciliatory" approach to these metaphysical debates. Roughly put, the approach recommends that in the face of persisting disagreement between epistemic peers, the disputants should change their credence to the average of the credence held by the disputants. In many cases, the resulting credence will be at around 0.5, which signifies agnosticism. So, if the Neo-Positivist is correct in prescribing

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[13] See Ladyman et al (2007) pp. 10-15, and Kriegel (2013) pp. 12-17.

[14] This sort of approach has been noted by Ted Sider in the intro to *Contemporary Debates in Metaphysics* (2007) p. 6, by Karen Bennett (2009) pp. 38-43, and M.B. Willard (2013) pp. 1-3.

Conciliationism, then the justification of revisionary metaphysical beliefs is threatened by the presence of rebutting defeaters in the form of other, incompatible revisionary metaphysical beliefs held by epistemic peers participating in the dispute.

As such, in addition to showing how revisionary metaphysical beliefs receive their first order justification, one of my focuses for this project is to argue in defense of justification for revisionary metaphysical beliefs on both fronts. I will argue that justification for revisionary metaphysical beliefs is not undercut. I will do so by arguing for a conception of the a priori that is both epistemically legitimate and the kind of epistemic faculty that can justify revisionary metaphysical beliefs. I will also argue that justification for revisionary metaphysical beliefs is not rebutted. I will argue against Conciliation with respect to disagreement in Revisionary metaphysical disputes. If my arguments succeed, then competing revisionary metaphysical beliefs do not act as rebuttals, and thus such beliefs are not defeated.

3. Methodology in metaphysics

Developing and arguing for a theory of epistemic justification with respect to revisionary metaphysical beliefs will lead me towards my second goal, which is the development and defense of a particular methodology of metaphysics. A sufficient condition for the justification of a belief is that it receives some kind of evidential support from the application of an epistemically legitimate method. A familiar example would be the scientific method. The belief that the transmission of germs from cadaverous material causes childbed fever is *prima facie* justified via repeated observation and experimentation, along with certain antecedently held principles regarding induction. The method that I develop and defend is an extension of the theory of justification that I also defend. If you buy into my story about how revisionary

metaphysical beliefs are justified, then this method will be easy to accept. As such, my defense of this method will largely rest on my defense of how revisionary metaphysical beliefs are justified. However, I will have some more to say in defense of this method.

This method shares some relevant similarities with the scientific method. The most salient similarity for the purposes of this project is the emphasis on consensus in both metaphysical and scientific practice. What I argue is that science enjoys a tremendous degree of consensus with respect to the deliverances of empirical observation. This consensus is what explains, at least in part, the success and epistemic authority of science. I also argue that metaphysics can also enjoy a similar kind of success and epistemic authority by examining whether or not there is consensus with respect to fundamental a priori principles. So, what I suggest as part of metaphysical methodology is to investigate whether there is such consensus with respect to the various principles that play evidential roles in metaphysical theories and debates.

I will compare this method to other methods that are popular in the practice of Revisionary metaphysics. My goal is not to argue that my method should be practiced to the exclusion of other methods. Rather, my goal is to show that my method supplements what is currently done in Revisionary metaphysical research, and can facilitate progress in many areas of investigation. What I want to show is that there is a way in which we could do metaphysics that has not been fully utilized, and it would be fruitful for us to use this method. This, I hope provides sufficient motivation for work towards my second goal (i.e. develop and defend a methodology for Revisionary metaphysics). Any method that shows promise in furthering our knowledge should be one that we should seriously consider and find ways to implement.

4. Roadmap

In chapter two of my dissertation, I will present my theory of epistemic justification with respect to revisionary metaphysical beliefs. Summarily put, some epistemic agent x is justified in believing some revisionary metaphysical theory T if x determines that T explains some set of relevant evidence for some field of metaphysical inquiry better than its competitors. Two key notions for this view are explanation and evidence. The bulk of the second chapter will be devoted to clarifying what exactly explanation is, its epistemic role in conferring justification, and how explanation works within the context of metaphysics. I will argue that the metaphysical notion of explanation is an epistemically legitimate justifier. That is, I will show how metaphysical explanation is second order justified.

Showing that metaphysical explanation is a legitimate justifier is insufficient for vindicating metaphysics as a legitimate epistemic enterprise. If one is skeptical that there is any evidence for metaphysical explanations to explain, then metaphysics as a field of inquiry does not get off the ground. So, chapter three will focus on a priori evidence in metaphysics. The focus of the chapter will be first to clarify what exactly a priori evidence is, and how it is relevant to metaphysics. Second, I will defend an account of the a priori that makes a priori data suitable as evidence for Revisionary metaphysics. This defense will meet the charge that justification for revisionary metaphysical beliefs is undercut. The idea here is that Revisionary metaphysics is a field of inquiry that uses a priori data in theorizing about mind independent reality. If a priori data is not about mind independent reality, then Revisionary metaphysics ceases to be a unique discipline and collapses into some form of Neo-Positivistic metaphysics.

So, I will argue that a priori data is indeed about mind independent reality, rather than simply about what's going on in our heads.

Chapter four will focus on the defense of the justification of revisionary metaphysical beliefs in the face of what might be rebutting defeaters. Here I will examine how the discussion on peer disagreement applies to long standing metaphysical disputes. I will argue that in spite of such persisting disagreements, revisionary metaphysical beliefs are not threatened by defeat. I will do so by showing that according to how epistemic peerhood is defined, disputants in these debates are not technically epistemic peers. Therefore, since there is no peer disagreement, the suggestion that disputants should adopt Conciliationism no longer applies.

Chapters two through four comprise the core of my dissertation, and show at least one way how epistemic justification works in revisionary metaphysics. Chapter five will take this theoretical framework and build a methodology for revisionary metaphysics. First, I will survey the methods currently employed among those who self identify as Revisionary metaphysicians. I will give some critical remarks about some of the tools employed. For instance, I will argue against the epistemic legitimacy of certain theoretical virtues. I will then develop and defend my methodology, which focuses on the notion of consensus. Finally, I will show how the method is applied in various case studies.

Chapter II: Explanation as Justification

0. Introduction

This chapter is where I set up my theory of epistemic justification. The thesis is simple and can be stated as follows:

An epistemic agent is justified in believing a metaphysical theory T if T metaphysically

explains some set of relevant evidence better than its competitors.

Note that the thesis is stated merely as a sufficient condition. This weaker formulation allows for the possibility that there are other means by which an agent can be justified in believing metaphysical theories. I don't aim to give a comprehensive account of justification for metaphysical beliefs here, but instead will focus on one commonly employed means of acquiring justification.

The chapter will break down as follows. Section one will be a characterization of explanation. Section two considers some necessary conditions for some proposition to be an explanation. Section three discusses the inferential pattern known as Inference to the Best Explanation. Section four argues why explanation vie Inference to the Best Explanation is a legitimate justifier. Section five goes into the notion of metaphysical explanation. Finally, section six argues why metaphysical explanation via Inference to the Best Explanation serves as a legitimate justifier. I will address the issue of evidence in the next chapter.

1. What is explanation?

In everyday life, explanations are typically understood as answers to "why" questions.[15] Figuring out what we're looking for when we ask "why" questions will help take us some way towards understanding explanations. So, what are we looking for when we ask? My best guess is that when we ask "why" questions, we're looking for something that helps us to understand things at a deeper level.

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[15] Peter Lipton gives this kind of general characterization in his *Inference to the Best Explanation* (2003) p. 21. Most of the literature that I've looked at so far don't even bother with an analysis of explanation, and seem content with giving a few examples.

From a practical standpoint, perhaps we are looking for patterns that will help us to predict events and to control our environment. When we ask why the fire occurred, perhaps it's because we want to act in ways as to prevent fires from occurring in the future. However, our interests often go deeper than pragmatic concerns. We ask "why?" because we might be dissatisfied with how things appear. We might seek underlying mechanisms, or fundamental governing principles, so that the world around us is less mysterious and obscure. In sum, explanations serve to provide us with some kind of intellectual satisfaction.

Given that human intellects can be satisfied in different ways, we should not be surprised that there are a variety of explanations. By examining various kinds, we find some commonalities that also help us to understand what explanations are. One way of distinguishing explanations is given by Aristotle in his four causes.[16] Although the phrase "four causes" is prominent in translations and in the secondary literature, we can also call them "four explanations." I tend to think that this is more perspicuous given the confusion that arises due to the contemporary understanding of cause. Aristotle's four causes include the material cause, formal cause, efficient cause, and final cause. The material cause explains some phenomenon by noting the sorts of things that compose it. For instance, I might ask why a cake tastes a certain way, and I might be given an answer that involves its ingredients. The formal cause explains a phenomenon by appealing to its structure or arrangement. For example, I could ask why a particular car is so fast. Someone might answer by telling me how the car was designed so as to make it more aerodynamic. The efficient cause explains a phenomenon by identifying some entity external to it that generated the phenomenon in question. This is closest to our modern of understanding of cause. Example: I ask why milk has spilled onto the floor. Someone tells that a cat jumped on the kitchen counter and knocked the milk carton over. Finally, the final cause explains a phenomenon by appealing to its function or purpose, i.e. what it is for. Last example: I ask why a

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[16] *Physics* II, 3.

particular fabric is so soft, and I am given the answer that it is intended to be used in making comfortable clothing.

Another way of distinguishing explanations comes from Richard Swinburne.[17] Swinburne distinguishes between two kinds of explanation: theoretical and personal. These explanations are employed to answer two different kinds of "why" questions. Personal explanations are the explanations we give when we answer "why" questions about the behavior of persons. Theoretical explanations are the explanations we give for all other "why" questions. Personal explanations typically take the form of reasons. I might ask why Bob left the house, and his roommate might answer by telling me that he wanted to get some food. Theoretical explanations are more varied, but they often take the form of either causes (in the modern sense) or laws of nature. I might ask why the sky is blue, and someone might explain by telling me about how light interacts with molecules in the air to produce the visual effect of blueness.

We can see that a common thread that runs through these different types of explanations is an attempt to go beyond the phenomenon in some way. This might be done by positing something external to the phenomenon such as causes, or by positing something internal to the phenomenon, but not directly observable, such as reasons or material constitution. Or, it might be done by positing something that is both external to the phenomenon in question, but not directly observable, such as appeals to laws of nature or some other very general feature of reality. What I shall argue for below is that there is another kind of answer to a "why" question that is deserving of the title "explanation." This kind of answer is called a "metaphysical explanation." Before getting to that, I have some more to say about what it takes for something to be an explanation.

2. What it takes for something to be an explanation

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[17] See his *The Existence of God* (1979) ch. 2.

Explanation is a relation. It is a relation between two sets of propositions. One relatum is the evidence. Extensive discussion about evidence will be held off until the next chapter. For now, an ordinary understanding of evidence will suffice. The other relatum is the theory. Under what conditions does this relation hold? I'll give two necessary conditions here.

The first condition is what I call the consistency condition.

CC: In order for some explanation to hold, a theory must be consistent with both the evidence and shared background assumptions.

I'll use a typical murder investigation case as an illustration. Suppose that a victim was found dead in a house in Syracuse, NY. Here is one theory that purports to explain the evidence.

T1: The victim was stabbed to death by Joe Schmoe.

Suppose that upon further investigation, we find that the victim died of a gunshot wound and had no knife wounds. This implies that the victim was not stabbed to death. In this case, T1 would be eliminated from consideration because it is inconsistent with the evidence.

Here is another possible theory for the evidence given above.

T2: The victim was shot by Joe Schmoe, who was located in Mumbai, India three hours ago.

Suppose that this theory was formulated two hours after the time of the victim's death. This theory would be ruled out, but for reasons that differ from our ruling on T1. Given our background assumptions regarding human biology and technology, it is currently not possible for Joe Schmoe to have shot the victim and then relocate to India within that time frame. Thus, T2 is eliminated from contention not because it is inconsistent with the evidence, but rather because it is inconsistent with some background assumptions that are in place.

I hold that CC is a necessary condition for any theory to explain some body of evidence. Although it is necessary, it is not sufficient. There are an infinite number of theories that are consistent

with the evidence and background assumptions. Let's go back to the investigation case. Here's one obviously bad theory attempting to explain the victim's death.

T3: Barack Obama is president.

The fact that Barack Obama is president is consistent with all of the evidence and background assumptions. Furthermore, we can create an infinite number of theories that are consistent with the evidence and background assumptions simply by disjoining T3 with some arithmetical claim, such as the following.

T4: Barack Obama is president or 1 + 1 = 2.

These are obviously ruled out as a candidate theories explaining the evidence. Why is that? An intuitive response is to say that neither T3 nor T4 have anything to do with the evidence. This gestures at another necessary condition. In this case, it seems that for a theory to qualify as an explanation, it must be related to the evidence in a way that "constitutes" explanation (That is, the theory explains the evidence in virtue of this relation). What kind of relation? Recall from above that explanation is more or less an attempt to satisfy human intellectual curiosity. Intellectual curiosity is satisfied in a variety of ways, however. If we accept this claim, then we have good reasons to think that explanation itself is analyzed as a disjunction of other relations, each of which provides the desired intellectual satisfaction. Consider the following, all of which come from examples given in the previous section.

E1: x materially composes y.

E2: x is the essence of y.

E3: x is the design of y.

E4: x is the function of y

E5: x is a reason for doing y.

E6: x causes y.

E7: x is a law that governs y's behavior.

Each of these relations can be considered to be forms of explanation. However, they are not all

definable in terms of the other. Therefore, explanation is best understood as a disjunction of at least

some of these (and possibly more) relations. So, in order for a theory to qualify as an explanation, it

must satisfy a further constraint, one that I call the "Relation Condition" (RC).

> RC: In order for a theory to explain the evidence, it must be related to the evidence in a way
>
>   that constitutes explanation.

Put another way, assuming that explanation is analyzed as a disjunction of relations, what is required for

a theory to explain the evidence is that the relation held by the theory to the evidence be one of those

disjuncts. I am not sure how many relations there are in total that constitute explanation. For my

purposes it doesn't matter. What is relevant for my project is that there is one particular relation,

metaphysical explanation, that can be shown to constitute explanation. I will discuss this further below.

It seems to me that both CC and RC are jointly sufficient for some theory to qualify as an

explanation to some evidence.[18][19] However, even though a theory may explain the evidence by

satisfying CC and RC, this is not sufficient to confer epistemic justification for believing in that theory.

What is further required is that the theory be the *best* explanation relative to all other theories under

consideration. This leads us to a familiar inferential pattern known as "Inference to the Best

Explanation" (IBE), which will be the focus of the next section.

3. Inference to the Best Explanation

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[18] When interpreting CC and RC, one can distinguish between the conditions being held as a result of the theory itself satisfying the condition, and the conditions being held as a result of an individual's belief that the theory satisfies the condition. I mean the former. These conditions state what it takes for a theory to be an explanation. A theory is an explanation regardless of whether anyone recognizes it to be an explanation.

[19] A theory can satisfy CC without satisfying RC. Can a theory satisfy RC without satisfying CC? This is an interesting conceptual question, but we can set it aside, as we can proceed in the same way regardless of the answer.

Let's return to our investigation case given above. So far, we made the following observations. We find a victim who died three hours ago in a house in Syracuse, NY by a gunshot wound to the head. Here are two theories that purport to explain the evidence.

T5: The victim was shot by a neighbor who was confirmed to be in the vicinity three hours ago.

T6: The victim committed suicide by a self-inflicted gunshot wound.

Both T5 and T6 explain the evidence, since they both satisfy CC and RC. T5 and T6 are consistent with the evidence and with background assumptions, thus satisfying CC. T5 and T6 both posit a cause for what we observe, i.e. a dead individual. A cause is a relation that constitute explanation. So, T5 and T6 satisfy RC.

In spite of this, an investigator would not be justified in believing either T5 or T6. Why is this the case? Suppose that the investigator believed that T5 explains the dead body. The introduction of T6 serves to defeat one's *prima facie* justification for believing T5. T6 serves as a *rebutting* defeater. The idea here is that a theory like T6 implies a claim that is logically incompatible with T6 (i.e. The victim was not murdered.). One cannot be equally justified in believing some claim *p* and something that implies the negation of *p*. T6 is equally supported by the evidence as T5, so we have no reason (so far) to choose one theory over the other. This leaves us at an impasse. Since we cannot be justified in believing both, and since one has no evidential advantage over the other, we are not justified in believing either. Thus, an investigator's justification for believing T5 has been defeated by the presence of T6. At this point, in order for the investigator to be justified in believing T5, T5 must somehow be a *better* explanation than T6.

I've just argued that *x* being a better explanation than *y* is a necessary condition for one to be justified in believing *x*. *x* being the best explanation is also a sufficient condition for justification. This is another way of stating the familiar inferential pattern called "Inference to the Best Explanation." The pattern looks something like this:

1. There is some set of evidence E.

2. Some theory T explains the evidence better than all of the other candidate theories.

3. Therefore, T is (likely) true.[20]

Given that there is a set of evidence, and given that T qualifies as an explanation (i.e. satisfies CC and RC), T being the best explanation is both necessary and sufficient for one to be justified in believing T.

One's justification for believing a theory depends on it being a better explanation than competing theories. What exactly makes a theory a better explanation than other theories? The task of finding the answer is complicated by the fact that there is not a single unifying account of explanation. As I argued above, explanation is analyzed as a disjunction of a variety of relations that we find to be intellectually satisfying answers to "why" questions. As such, what makes an explanation better will depend first on what the underlying relation is. An explanation that incorporates a reasons relation, i.e. x performed this action because x had this reason, will be better or worse than its competitors in a manner that differs from an explanation that incorporates a law of nature relation, i.e. x's behavior is explained by the behavior instantiating some law of nature. For instance, what might make a law of nature relation a better explanation than competing law of nature relations is its generality. That is, a law of nature that applies to a greater and more varied number of instances would be a better explanation than a competing law of nature. This would differ from something that would make a reasons relation a better explanation than other competing reasons. For example, something that would make a reasons relation a better explanation would be its coherence with the character or psychological profile of the individual performing the action.

The degree of difficulty in determining what makes for a better explanation will vary from relation to relation. What makes a certain cause a better explanation that other candidate causes may be easier to determine than what makes a certain final end (i.e. telos) a better explanation than other

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[20] The strength of the conclusion is a matter of debate. See "Abduction" in the *Stanford Encyclopedia of Philosophy* (Douven, 2011).

final ends. However, we need not be detained by such issues. What is relevant for this project's purposes is the one relation that is relevant for explanation in metaphysics.

4. Explanation as epistemic justification

IBE involves two premises: A premise noting some evidence, and a premise stating that one theory is better explanation than its competitors. These premises imply the conclusion that the aforementioned theory is either true or likely to be true. As applied to metaphysics, the Neo-Positivist skeptic can deny that we know, or are justified in believing, either of the premises. Denial of the first premise means that we don't have epistemic access to the evidence. This, I will show, is another way of putting that our justification for revisionary metaphysical belief is defeated by undercutting. I will address this concern in the next chapter. Denial of the second premise means that we don't have a way of knowing which theory is the superior one. This is another way of saying that our justification for revisionary metaphysical belief is defeated by rebuttal. I will address this in chapter four. Finally, the skeptic might grant that the premises are true, but then deny that the premises support the conclusion. The skeptic might argue that in spite of the fact that we recognize some evidence, and that one theory is the superior explanation, we are still not justified in believing that theory. In this case, the best explanation of the evidence is somehow insufficient for justification. I will focus on this objection for this section.

The argument for IBE is fairly straightforward, so this section will be short. All we need to do is point to the ubiquity of its practice across all areas of life. A car mechanic uses IBE when he listens to a running engine and has to decide whether the explanation for the noise is that the timing belt is worn, or that the transmission is not properly oiled. A doctor uses IBE when she listens to her patient's description of the symptoms and has to decide whether the cause of the symptoms is a food allergy or a stomach virus. A detective uses IBE when she looks at a crime scene and has to decide whether the

victim died by suicide or by homicide. We can also see IBE at work in scientific practice.[21] There are many cases in science where scientists will have to choose between competing theories that purport to explain the data. For instance, there is data regarding climate change. Scientist must decide whether the primary cause of what is recorded in the data are human activities or natural occurrences.

Rejecting IBE as a justifier, i.e. accepting the premises but rejecting that the premises imply the conclusion, would amount to rejecting many of the beliefs we take to be justified through everyday living and through our professional work. This leaves us in an implausible epistemically impoverished state. Rejecting IBE amounts to a skepticism about beliefs in science (among other areas of inquiry) that are a product of deliberation about competing explanations.[22] Since a large proportion of scientific beliefs come about as a result of this deliberative process, rejecting IBE amounts the rejection of a large body of scientific beliefs as unjustified. I assume that the audience of this work will be sympathetic towards scientific practice as a legitimate means of justification, and so will not pursue this line of argumentation any further.[23]

If one bites the bullet and rejects these kinds of deliberative practices in science as well as various other areas, then one is left with a position that states that the vast majority of our knowledge comes about exclusively through some form of direct acquaintance, e.g. knowing that one is pain as a result of feeling pain. Such an epistemology does not allow for predictions or counterfactual reasoning, since both prediction and counterfactual reasoning generally involve the evaluation of competing explanations. Such a view is implausible enough to not merit any further consideration. The real action

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[21] See Boyd (1980) pp. 613-615 for a defense of IBE from scientific practice.

[22] It seems to me that critics of IBE, like Bas van Fraassen, are not skeptical of explanation in general, but rather of explanation in scientific practice, particularly with respect to the positing of theoretical entities. It also seems the case that van Fraassen is not attacking the "validity" of IBE, but rather the truth of its second premise, i.e. there is some explanation that is superior. See his *Laws and Symmetry* (1989) ch. 6 & 7.

[23] Perhaps one might reject IBE because it is incompatible with Bayesian reasoning, and Bayesian reasoning is a better way to model inferences with respect to theory and evidence. Even if we were to accept that IBE and Bayesianism are incompatible, it is an open question whether or not Bayesianism, which concerns probabilistic reasoning, applies to the epistemology of metaphysics, which deals primarily with claims that are either necessarily true or necessarily false. However, there are reasons to think that IBE and Bayesianism are compatible, thereby allaying the concern regarding IBE as a justifier. See Lipton (2003), ch 7 and Dellsen (forthcoming).

with respect to the IBE debate focuses on the truth of the premises. Before discussing the premises, I will move from IBE in general to IBE as it is applied to metaphysics. Later discussion of the premises in IBE will be focused within the context of metaphysics.

5. Metaphysical Explanation

So far, I've given a brief sketch on what I take explanation to be, and how I think explanation confers epistemic justification. This section and the next are extensions of these two tasks. Here, I will begin to characterize the notion of metaphysical explanation. Explanations in metaphysics function in the same way that they do in any other area of inquiry. They serve as answers to "why" questions, and are thus given to satisfy intellectual demands. Some explanations are what we might consider to be "horizontal" relations. A standard example of a horizontal explanatory relation would be a causal relation. A typical construal of a causal relation is one that includes two events that are temporally separated. This temporal separation is partly what gives these kinds of relations their "horizontal" designation. Other explanatory relations can be considered "vertical." These are often relations where *explanans* and *explanandum* are not temporally separated. How does an explanatory relation that doesn't involve temporal separation work? Consider the following case.

As anyone who has spent time with children can attest, "why" questions can result in a very long regression. Any answer to a "why" question can itself be subject to another "why" question. This kind of regression can take the form of a circle, a hierarchy, or some combination thereof. For instance, we can ask why people get sad. An initial answer can appeal in part to certain properties of an individual's brain. Asking why about this explanation can lead to an answer involving properties had by chemicals that compose the brain. Asking yet another "why" question might yield an answer involving properties had by particles that in some way compose the chemicals that in turn compose the brain. This chain of explanations is what we can consider to be a series of vertical explanatory relations.

Metaphysical explanation is a type of vertical explanatory relation. They are the sorts of relations where the *explanans* is usually located at the terminus of a chain of vertical relations. At each step along a chain of vertical explanatory relations, there can be a range of competing explanations offering answers to the corresponding "why" questions. At the shallow end of this chain, theories are weeded out by their fit with the observed evidence and background assumptions. However, as we move further down this chain, the background assumptions themselves are now open to question, and thus it becomes more difficult to weed out theories.   When it comes to metaphysical explanations, we are at the deepest end of the chain. The questions and answers here are at their most general. Background assumptions are now brought to the forefront, and cannot be implicitly held without begging the question against a particular theory.

Metaphysical explanations are supposed to be the "deepest" kinds of vertical relations. These relations have as *explanandum* observations of the broadest and most general kinds. Here are examples of the sorts of observations that would call for metaphysical explanations.

MO1: Things have features.

MO2: Some things needn't have been the case, whereas others must be the way they are.

MO3: Things change over time.

When it comes to phenomena of a more particular variety, such as the sorts of observations that interest scientists, appropriate explanatory relations can come in the form of causation, appeals to a law of nature, or appeals to reasons in the case of explanations of agential decision making. Metaphysical explanations are somewhat unique in this regard in that they employ a different relation to link the *explanans* to *explanandum*. Law-like connections like causation or laws of nature are themselves observations that theories in metaphysics seek to explain. Metaphysical theories will need a deeper relation that will in turn explain relatively higher level explanatory relations like causation.

This sort of connection is often expressed by the relation, "in virtue of." There is a rapidly growing literature on this relation, and associated terms include "grounding," "metaphysical dependence," "fundamentality," "truthmaking," etc.[24] Most of this literature is either concerned with hashing out the problematic details surrounding these kinds of relations, or with the many ways in which these relations can be applied. As far as details go, there is much that is up for debate. Does this relation hold between entities, propositions, facts, states of affairs, or etc? Is this relation reflexive, symmetric, or transitive? What is the connection between this relation and similar concepts like supervenience and hyper-intensionality? There are also questions regarding the connection between this relation and the topic of fundamentality. For instance, is this relation itself fundamental?

Fortunately for this project, I can leave many of these questions unanswered. All that's needed here is that there is some kind of relation that does the kind of explanatory work discussed above. That much, however minimal, seems plausible enough and is sufficient for my purposes. The reason why I can skirt these issues is because of a distinction between metaphysical explanation as a metaphysical notion and metaphysical explanation as an epistemological notion. The metaphysics of metaphysical explanation asks what this relation is like and how it relates to other features in reality. The abovementioned issues have to do with the metaphysics of metaphysical explanation. The epistemology of metaphysical explanation asks questions like whether or not such a relation confers justification, whether it satisfies intellectual demands, etc. We can address epistemological issues regarding metaphysical explanation even if we haven't gotten all the metaphysical issues sorted out. Consider an analogous case in science. Explanatory relations in science include relations such as causal relations (*x* causes *y*) or law of nature relations (*x* is an instance of law of nature *y*). There is still a lively debate on the metaphysics of causation and laws of nature. In spite of this, it is plausible to think that scientists are justified in believing a theory on the basis that it is causally related to the evidence, or that

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[24] See the bibliography of "Metaphysical Grounding" in *Stanford Encyclopedia of Philosophy* (Bliss & Trogdon, 2014).

the theory somehow "covers" the evidence via some law of nature. If we are okay with such beliefs being justified in science despite the lack of conclusiveness regarding the metaphysics of the underlying mechanisms, then it seems we should be fine with metaphysical beliefs being justified on the basis of metaphysical explanation, in spite of the fact that there is still plenty of debate as to what this relation amounts to.

In order to stay as neutral as possible, I will call this explanatory relation the IVO relation (short for "in virtue of"). So, RC as it applies to metaphysical explanations involves the IVO relation. The IVO relation is considered one of the disjuncts that explanation is analyzed in terms of. Therefore, some theory T is a metaphysical explanation for some evidence E only if it is the case that E holds in virtue of T. For example, a candidate theory that might satisfy RC with regards to MO2 would be concrete modal realism. Some things needn't be the case and some things must be the case in virtue of there existing concrete possible worlds such that some things aren't true in some worlds and some things are true in all worlds.

Notice that in the previous example the IVO relation involved an existence claim. In this particular claim, we posit the existence of concrete possible worlds. One variety of IVO relations are what I call ontologically committing (or "OC") relations. Such theories explain our observations by positing the existence of some entity by virtue of which our observations hold. OC relations can be found in explanations that are not necessarily metaphysical explanations. For instance, one might observe creepy noises occurring inside an old house. One OC relation is that there are ghosts that live in the house that are making those noises.

OC relations are widespread throughout metaphysics. However, OC relations aren't the only kinds of explanatory relations to be found in metaphysical discussions. Oftentimes OC relations in metaphysics posit an entity that is controversial. For example, the theory of Platonism can be considered as an OC relation that posits the existence of abstract universals. These entities are not

accepted by all participants of discussions in which Platonism would be considered. This also occurs

outside of metaphysics. Going back to our haunted house example, an OC relation that posits the

existence of ghosts would surely be considered controversial. In light of this, other sorts of explanatory

relations are offered in metaphysics in opposition to OC explanations. These are what I'll call

"debunking" relations. Debunking relations attempt to explain observations while avoiding ontological

commitments to entities that might be considered controversial. So, instead of saying that ghosts are

making the noises in the old house, a debunking relation might claim that the noises are being caused by

the expansion and contraction of old pipes that run along the insides of the house's walls. Moving on to

an example in metaphysics, Nominalism might be offered as a debunking explanatory relation to the

observation that things have features. Nominalism does not posit a controversial entity, but instead

may appeal to claims about our language in explaining why things have features. Debunking

explanations are also a variety of IVO relations in that it still relies on the existence of something to do

the explanatory work. The difference between these and OC explanations is that the entities posited in

a debunking explanation are entities that are commonly accepted as existing. Oftentimes the *explanans*

in the debunking type of IVO relation are mental entities. For instance, the observation that things have

features can be explained by what's going on in our minds, rather than something that exists

independently of our minds.

So, in metaphysics we often see a dialectic between theories that employ OC relations and

theories that employ debunking relations. In other areas of inquiry, this distinction doesn't matter so

much for several reasons. Shared background assumptions may eliminate many OC-type theories. A

theory that posits the existence of ghosts might be eliminated because all inquirers share the

background assumption that ghosts do not exist. However, such shared background assumptions often

disappear at the level of metaphysical inquiry. Since metaphysics involves inquiry at its most general

level, background assumptions are brought to the forefront and become objects of investigation. At this

point, the distinction between OC and debunking relations becomes more relevant.

Having given a brief characterization of what a metaphysical explanation is, I turn now to the

question of whether metaphysical explanation, i.e. the IVO relation, indeed satisfies RC. That is, should

we think that the IVO relation is a relation that constitutes explanation? From an epistemological

standpoint, whether or not a relation satisfies RC more or less depends on whether it satisfies the

relevant intellectual demands. In the appropriate context, a relation that satisfies RC, will be a satisfying

answer to the relevant "why" question. Whether or not a relation that is a candidate for explanation is

intellectually satisfying will depend on the community of inquirers. If we want to know what sorts of

explanations are intellectually satisfying in science, and thus satisfy RC, we would do no better than to

ask the scientific community. Likewise, if we want to know if the IVO relation provides an intellectually

satisfying explanation in metaphysics, we should look to the metaphysicians. As it turns out, it would be

very difficult indeed to miss the myriad of cases in which the IVO relation is used as a means of

explaining observations. Consider, for instance, Davis Lewis's seminal book, *On the Plurality of Worlds*.[25]

The book is ostensibly about how concrete possible worlds can be used to explain a variety of

phenomena, from properties to propositional content. Ted Sider has used the theory of Four

Dimensionalism to explain the paradoxical issues regarding material constitution and co-location.[26]

David Chalmers defends Property Dualism as a theory that explains the sorts of things related to

consciousness.[27] This is just the tip of the contemporary philosophy iceberg. Historical examples

abound, from Thales (Water), to Plato (Forms), to Leibniz (Monads). In all of these cases, the *explanans*

explain the *explanadum* because the *explanadum* holds in virtue of the *explanans*. To reject the IVO

relation as a relation that constitutes explanation would amount to the rejection of a methodological

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[25] Lewis, (1986) ch 1.2-1.5.
[26] Sider, *Four Dimensionalism* (2001) ch. 5.
[27] Chalmers, *The Conscious Mind* (1996) ch. 4.

practice that is widespread in metaphysics. If metaphysics, like science, is in the business of explaining, and if the IVO relation doesn't explain, then it doesn't seem like metaphysics explains very much. This is certainly at odds with how metaphysicians view their discipline. If metaphysicians themselves accept and employ IVO as a relation that explains, then that would suggest that the IVO relation is intellectually satisfying. Thus, from an epistemological standpoint we have a good enough reason to suppose that IVO is indeed an explanatory relation.

6. Metaphysical explanation as justifier

In section four I argued that, assuming the truth of the premises, IBE confers epistemic justification. In section five I argued that the IVO relation is indeed constitutive of explanation, i.e. that it is one of the disjuncts that explanation is analyzed in terms of. This section will take a first step towards showing how metaphysical explanation confers justification. If you already accept what I've argued for in sections four and five, then this first step will be short and sweet.

If you accept my claims in section four, then you believe that IBE as an inferential pattern is a justifier. That is, given some set of evidence, and given that some explanation is better than the rest, you are justified in believing the superior explanation. If you accept my claims in section five, then you believe that the IVO relation constitutes explanation, and thus there is such a thing as metaphysical explanation. So, let's suppose that you accept that there is evidence that is relevant for metaphysical theories to explain. Further, let's suppose that you accept some metaphysical to be a superior explanatory theory vis-à-vis competing metaphysical theories. You should then accept that you are justified in believing the superior theory.

At this point, one might still resist the claim that revisionary metaphysical explanation is indeed a justifier. What could be the reason for the persistent skepticism? Perhaps one might argue that the IVO relation in particular does not confer justification via IBE. It's hard for me to see how someone could plausibly maintain this kind of local skepticism, especially since the IVO relation is not exclusive to

metaphysics. To deny that one is justified in believing a theory because it is a better IVO-type explanation relative to others would be to deny one prominent means by which we come to be justified in believing scientific theories. There are "inter-level" reasons for being justified in believing a scientific theory. One might be justified believing a theory in chemistry because it enters into an IVO relation that is relatively superior with respect to observations in biology. Thus, employing this strategy to raise skepticism regarding metaphysical explanation would do too much. It would invalidate beliefs that that we already take to be justified.

Accepting this first step still leaves us miles away from our goal. As I mentioned earlier, most of the action with respect to the legitimacy of epistemic justification in revisionary metaphysics happens at the level of the premises of IBE. Whether or not we really do have evidence that is relevant for revisionary metaphysical theories, and whether or not we can assess which revisionary theory is better than the others, will be extensively discussed in what follows.

7. Conclusion

Time for the recap. This chapter was all about a model of epistemic justification with respect to metaphysical beliefs. That model was based on explanation. In section one, I briefly characterized what I took explanation to be, noting that it is understood as an answer to a "why" question, i.e. something that provides intellectual satisfaction by perhaps showing some underlying mechanism or principle that is related to what we observe. I showed how this is the case with the varieties of explanation one might come across. I then proposed in section two some necessary conditions that a theory has to satisfy in ordered to be considered an explanation. One condition, CC, stated that the theory had to be consistent with the evidence. The other condition, RC, stated that the theory had to be in the kind of relation to the evidence that constitutes explanation. This second condition showed that explanation is a disjunctive notion. It is analyzed in terms of various other sorts of relations, these relations expressing the sorts of connections that we often consider to be underlying principles or mechanisms. Section

three was where I briefly introduced and discussed Inference to the Best Explanation, which is an

inference pattern that shows how an explanation acts as a justifier. Section four gave some arguments

showing that IBE (given the truth of the premises) does indeed confer justification. Section five dealt

with metaphysical explanation in particular. I showed how metaphysical explanation is another variety

of explanation. Metaphysical explanation is a relation that is commonly referred to by use of the phrase

"in virtue of." This relation, what I call the "IVO relation," can be referred to as grounding, truthmaking,

relative fundamentality, etc. In addition to providing a brief characterization of metaphysical

explanation, in section six I showed how metaphysical explanation confers justification by showing how

it fits into the same justification conferring pattern seen with other forms of justification.

If I am right that metaphysical explanation, via IBE, is a legitimate justifier, then I have gone

some way in answering skeptics about revisionary metaphysical knowledge. The mechanism of

explanation provides us with some of the means to acquiring metaphysical knowledge. But we are not

out of the woods. A skeptic can grant that there is such a legitimate justification -conferring notion as

metaphysical explanation, but then go on to dispute that there is any evidence for metaphysical

explanation to explain. If there is no such evidence, then metaphysical explanation fails to get off the

ground. In the next chapter I focus primarily on the question of whether there really is such a body of

evidence.

Chapter III: A Priori Evidence

0. Introduction

This chapter is about a priori evidence for metaphysical explanations. It breaks down as follows.

Section one will attempt clarify on what exactly evidence is. Section two will be a brief survey on a

family of concepts related to the a priori. Section three will survey a popular conception of the a priori

that turns out to be problematic for this project. Section four will introduce a different conception of

the a priori that makes it amenable for the justification of metaphysical beliefs. Section five will provide

arguments for this metaphysics-friendly conception of a priori knowledge. Section six will respond to

objections leveled against this conception of the a priori. Section seven will consider what kind of

metaphysical evidence this conception of the a priori gives us.

1. Evidence

Due to its widespread use both in and out of the philosophy conference room, the term

"evidence" can suffer from a great deal of ambiguity. What I have to say here in this section will be

largely stipulative, as providing a non-controversial account of what exactly evidence is will not be

feasible. Similarly with respect to explanation (see the previous chapter), there are metaphysical and

epistemological issues regarding evidence. Metaphysical issues cover the nature of evidence. Is

evidence an entity that is internal or external to the mind? If it is internal, what is? Is it knowledge, a

sense impression, or some other mental state? If it is external, is it a concrete entity, or an abstract

entity, like propositions? Epistemological issues about evidence cover the role that evidence plays in

securing knowledge. Is evidence a justifier? If so, how does it confer justification?

I shall set metaphysical questions about evidence aside, as I don't believe they are directly

relevant to this project. As far as epistemological issues go, there is a distinction that will come into play

between different kinds of evidence. This is a distinction between what we might call "potential"

evidence and "relevant" evidence. All knowledge (or perhaps at least all justified belief) is potential

evidence. Potential evidence can be explained by some theory or another. However, not all potential evidence is relevant evidence. This is the case because there are theories that don't purport to explain everything. A theory about how some individual in Syracuse died is not going to explain why there is a drought in central California. Thus, weather patterns in central California will not be considered relevant evidence when we are considering competing explanations regarding said individual's death. What makes some potential evidence relevant will depend on what the theory is trying to explain. The process of determining what evidence is relevant tends not to be so cut and dry, however. Oftentimes such a process involves a back and forth between adding and eliminating theories and adding and eliminating evidence. This process can be recognized as an instance of reflective equilibrium.[28]

Another epistemological issue regarding evidence has to do with its role as a justifier. Assuming that it is a justifier, evidence construed in this way provides, at least in part, first order justification. However, we can also approach evidence from a second order justification perspective. We do so by examining the sort of things that might "generate" evidence at the first order. We can ask what sorts of evidence these entities generate, and we can also ask the second order justification question of whether we are justified in believing that these entities reliably generate what we take to be evidence. Cases of such evidence generators would be epistemic faculties, i.e. entities or mechanisms that generate belief. A standard example of an epistemic faculty would be sense perception. Sense perception generates beliefs. Those beliefs might be justified in virtue of the fact that they are generated by a reliable belief forming mechanism. In this case, sense perception acts as a first order justifier. Those beliefs generated by sense perception can also serve as evidence for various theories and hypotheses that we might find in science. If we accept that sense perception produces knowledge, a second order issue, then we accept the beliefs generated by sense perception as evidence for further beliefs.

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[28] See Goodman, (1955) pp. 87-90.

The story doesn't end here. I stated above that we can ask what sort of evidence a belief generator produces. We might accept that some belief generator produces knowledge (or justified belief), and thus produces evidence. However, there is still the question of whether such evidence is relevant for a particular theory or collection of theories. Let's return to sense perception as a belief generator. What kind of evidence does this mechanism generate? An external world skeptic might argue that such a mechanism only generates knowledge about one's internal mental states. It does not produce any evidence supporting theories about the external world. On the other hand, a realist might argue that such a mechanism not only produces knowledge about one's mental states, but also provides evidence for theories about mind-independent reality. So, we can ask two questions about these belief generating mechanisms. First, do they produce evidence? Second, does the evidence that such mechanisms produce turn out to be the sort that are relevant for a particular set of theories? This second question is what will be the focus of this chapter. In what follows I will discuss a family of concepts that are related to a priori knowledge, and also discuss what I take to be the mechanism that generates a priori knowledge.

2. The A Priori and Related Concepts

The goal of this section is to make sense of all the various notions that are typically associated with the a priori. This section will be mostly surveyish. What will emerge from this exercise is a clearer picture of the sorts of beliefs generated by the a priori. Each of these notions is a subject of extensive discussion on its own. I will characterize my understanding of each in such a way as to avoid as much controversy as possible. I will, however, step in and take a substantive position if my project absolutely requires it to.

A. A Priori

A priori knowledge or justification (I'll just use knowledge from now on for brevity) refers to a knowledge that is acquired by a particular belief generating mechanism. Often this means is

characterized negatively, and so is often understood in contrast with *a posteriori*, or empirical knowledge. A posteriori knowledge is typically thought of as knowledge gained via some mechanism related to experience. A priori knowledge, then is typically considered to be knowledge that is *not* acquired via experience.

This negative characterization of a priori knowledge has been a source of concern among theorists.[29] As I will discuss further below, the rise of naturalism as a methodological paradigm has led many either to dispense with a priori knowledge altogether or to recast it somehow as being naturalist-friendly, which often times ends up collapsing into the first option.[30] These sorts of treatments of the a priori make certain presuppositions of what the a priori is all about. These presuppositions lead to a certain positive view about the a priori that I will ultimately reject. Before arriving to these conclusion, I will continue this survey and mention other related ideas in order to eventually piece together the positive view that I will argue against.

B. Analyticity

Roughly put, an analytic sentence is true (or false) in virtue of its *meaning*. What this amounts to in precise terms is a matter of debate. In order get a better idea of what analyticity is, people often give examples like these for comparison.

All squares have four closed sides.

Some graduate students live in Syracuse, NY.

Both are true, but it seems that they are true for different reasons. All that the first sentence is doing is making explicit something that is already part of the definition of 'square'. The second sentence isn't doing that. The second sentence seems to be attributing something to graduate students that isn't part of the definition of phrase 'graduate student'. The first sentence is given as an example of an analytic sentence. The second is supposed to be an example of a *synthetic* sentence. Similar to the a priori,

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[29] See Bonjour (1998) ch. 4, Bealer (1998) pp. 204-207, and Casullo (2003) ch. 1-3.
[30] See Devitt (2005) pp. 185-190.

synthetic sentences are understood negatively. They are sentences whose truth value is *not* grounded in meaning.

Analyticity is often associated with a priori knowledge. A priori knowledge is knowledge that is not acquired via some mechanism related to experience. Analytic sentences are sentences that are true in virtue of meaning. One doesn't need to have the kinds of experiences associated with a posteriori knowledge in order to investigate the meanings of terms that are constituents of a particular sentence, and thus come to know the that sentence is true in virtue of meaning. Thus it seems plausible to hold that all analytic claims, if known, are known a priori. However, it is more controversial to hold that all a priori claims are analytic.[31] I reject this second claim and argue against it below.

C. Concepts

Concepts are mental entities. They are tools by means of which we organize our experiences. Concepts are the sorts of things we can use to tell a story about how analyticity works. People often talk about analyticity as involving something like "conceptual containment." That is, to say that sentences are true analytically can mean that one concept in the sentence is "contained" within the other. For instance, the proposition expressed by the sentence, 'All bachelors are male' is true because the concept of being male is "contained" inside the concept of being a bachelor.

This natural fit between concepts and analyticity is expressed in the widespread use of conceptual analysis, which is the method by which we come to a greater understanding of a concept by identifying a set of jointly sufficient conditions for any particular individual or thing to be counted as an instance of the concept. These conditions involve other concepts, so one could see the process of conceptual analysis as a way of structuring the collection of one's concepts into some coherent framework.

D. Modal Epistemology

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[31] See Kant, first Critique, Introduction, sections IV & V.

Propositions are often categorized as either known a priori or a posteriori, and either analytically true or synthetically true. There is also a third category that is often associated with the prior two categories. Propositions, if true, can be true necessarily or true contingently. Modal epistemology is the study of our purported knowledge of necessary and contingent claims. Modal epistemology is tied into the other notions covered here because it has been typically understood that knowledge of modal claims is a priori.[32][33]

Modal epistemology plays a role in the evaluation of conceptual analyses. As mentioned above, conceptual analysis is the process by which one enumerates certain conditions which a thing must satisfy before being counted as belonging to a concept. These sorts of conditions are of course often evaluated and disputed, with counterexamples being proposed to show the failure of these conditions to be either necessary or sufficient. An analysis is supposed to generate a necessary truth. If it is indeed true that a bachelor is an unmarried male, then it is necessarily true that a bachelor is an unmarried male. Counterexamples, then can be cast as modal claims, i.e. that it is possible that there is some x such that it falls under a concept F but fails to satisfy the proposed necessary conditions, or that x does satisfy the proposed jointly sufficient conditions but is not F.

An example would be helpful here. We can analyze the concept of a person. I might state that a person is a rational animal. If this is indeed a complete and true analysis, then it is necessarily the case that a person is a rational animal. Someone might offer a counterexample and claim that an advanced AI is a person, even though it does not satisfy the necessary condition of being an animal. Or perhaps someone might argue that highly evolved dolphin or chimpanzee does satisfy the proposed sufficient conditions, but is not considered a person.

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[32] Of course, modal knowledge is not exclusively a priori knowledge. If knows that p via sense perception, then p is actual. Most would accept that if p is actual, then p is possible. Therefore, one can know via sense perception some possible claims, and thus have modal knowledge.

[33] The claim that modal knowledge is exclusively a priori has been famously challenged in the mid 20th century. I'll get to that below.

This exercise is one that is probably very familiar to anyone who's reading this. What is of particular interest for the purposes of this project is how we come to assess the truths of both the analyses given and the counterexamples proposed. A term that is at the center of discussion in modal epistemology is 'conceivability.' There is much debate over the supposed connection between what is conceivable and what is possible.[34] It is traditionally thought that a proposition being conceivable was sufficient for it being possible. I will assume without argument that this is true. This still leaves open the question what exactly this conceivability amounts to. That will be the focus of the next sub-section, which will wrap up our survey of the a priori and a priori related notions.

E. Intuitions

Conceivability can be understood as a form of intuition. In which case, intuition can be understood as a means by which we come to have modal knowledge, as well as a priori knowledge in general. However, talk of intuitions in the philosophical literature is fraught with confusion and conflation. In this sub-section, I will provide a partial characterization of intuitions. Just as in the sub-sections above, this is merely a survey sketch. Further characterization will take us into unnecessary controversy, as there is healthy debate on all facets of what intuitions are supposed to be.[35]

At the most general, and possibly the most trivial level, I take intuitions to be some kind of mental state, i.e. some sort of event that happens in the mind. This much seems pretty uncontroversial. Beyond this, opinions differ about what intuitions are.[36] I understand intuition to be a passive, as opposed to active mental state. For example, I take sense perception and dreaming to be passive mental states, whereas I take deliberation and arithmetic calculation to be active mental states. You could say that intuitions are propositional attitudes, in that they have propositions as their objects. But,

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[34] See Gendler and Hawthorne (eds.) (2002) for literature.

[35] See DeParul and Ramsey (eds.) (1998), Booth and Rowbottom (eds.) (2014) for literature.

[36] For instance, there is some debate as to whether intuitions are beliefs, inclinations to believe, or some kind of phenomenological data, i.e. a "seeming." See Bealer (1987) sec. 9 (1996) pp. 123-124 (1998) pp. 207-214, Nimtz (2010) pp 363-365, and Williamson (2009) ch. 7.

they don't behave quite like other propositional attitudes. They seem to apply to certain propositions in one way, and other propositions in another way. As I shall explain further below, this leads me to infer that the term "intuition" is a conflation of two distinct propositional attitudes.

The term 'intuition' is used in a variety of contexts. Here are some of what I take to be the sorts of contexts where intuition talk is most commonly found. People use the word 'intuitive' to describe objects or processes that are easy to understand or implement. For example, people will say that a certain user interface is intuitively designed, or perhaps that an unusual arrangement of characters on a kind of keyboard is unintuitive. Moreover, the term 'intuition' or 'intuitive' can be used to describe individuals and the manner in which they make decisions. For example, an athlete might be described as an intuitive player. The term is also used to describe certain kinds of beliefs or attitudes. For example, the use of intuition is implied when it is said that someone "has a bad feeling" about a certain situation. Likewise, we infer the use of intuition when we hear that a coach "went with his gut" and called a risky play. These sorts of beliefs or attitudes are what Malcolm Gladwell calls "snap judgments," and are treated to extensive discussion in his book, *Blink*.[37] Daniel Kahneman, in his book *Thinking, Fast and Slow*, also uses the term 'intuition' to describe cognitive processes associated with what he calls "System 1," which is the fast thinking part of our psychology.[38] I take the aforementioned uses of 'intuition' as one category of meaning for the term. This category includes cognitive processes that are "fast," i.e. they don't involve a chain of explicit deliberation. When we talk about an object whose use is intuitive, we mean that we can understand how to use it without going through a series of conscious steps. When we talk about an individual whose pattern of behavior is intuitive, we mean that her decisions are not the product of a conscious, methodical, deliberative process. When we talk about beliefs or attitudes as intuitive, we mean that they are the product of a fast process. When you "go with your gut," you're not consciously assessing every variable that's pertinent to your decision.

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[37] See Gladwell (2013) ch. 2.
[38] Kahneman (2015) ch. 4 & 5.

The term 'intuition' is also used to describe a basic belief generating mechanism. The notion of a "basic" belief generator will be discussed below. In various debates, the appeal to intuition can be explicit or implied. For instance, axioms and definitions in logic and mathematics are often described as "self-evidently" true. I interpret the claim that a proposition is self-evidently true as an implicit appeal to intuition. Historically, Descartes appeals to the notion of "clear and distinct ideas" in justifying some claims that he makes in the *Meditations*.[39] Again, I interpret the claim that an idea is clear and distinct as another implicit appeal to intuition.

Moreover, and more controversially, people interpret thought experiments as paradigm cases of appeals to intuition.[40] One might hear thought experiments referred to as "intuition pumps." One way of understanding how thought experiments work is as follows. Someone is given a hypothetical situation and then asked to make a considered judgment on some particular facet of the situation. We interpret two things about that judgment. First, the judgment serves as evidence for or against some philosophical position. Second, that judgment is generated by an individual's intuition. For example, in the Gettier-style thought experiments, one is given a hypothetical situation in which some individual x obtains a belief that is both true and justified. But, because of the unique nature of these types of situations - x is looking at the only real barn amongst a countryside of facades, or x is looking at the only genuine Picasso in an exhibit full of forgeries - many who are presented with Gettier-style thought experiments form the judgment that the individual in the scenario does not have knowledge, even though she has a justified true belief. This judgment is assumed to originate from intuition, and supposedly serves as evidence against the view that justified true beliefs are sufficient for knowledge. Along with the category of snap judgments mentioned above, this type of use of the term 'intuition'

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[39] See his *Meditations on First Philosophy*, Second Meditation.
[40] See Herman Cappelen (2013) ch. 8 for a dissenting opinion about thought experiments.

comprises another category of meaning. This category takes intuition to be a belief generating

mechanism.[41]

Both of these categories, i.e. the category of a certain fast cognitive process, and the category of

a basic belief generator, are associated with the term 'intuition.' This conflation is often a source of

confusion when talking about intuition. For instance, when performing a second order evaluation of

intuition as a justifier, people might assume that all beliefs associated with intuition are a product of a

fast cognitive process. This needn't be the case. After some further clarification, we can see that the

category of fast cognitive processes is distinct from the category of basic belief generating mechanisms.

A *basic* belief generating mechanism is distinguished from a *derived* belief generating mechanism. A

basic belief generator is a mechanism that does not directly rely on any other belief generators in order

to confer at least *prima facie* justification on some appropriately related belief.[42] A derived belief

generator is not a basic belief generator. Examples of basic belief generators include sense perception

and introspection.[43] Examples of derived belief generators include memory and testimony. When I talk

about intuition as referring to a basic belief generator, I mean that it refers more specifically to a

category of *basic* source of justification. This form of intuition confers justification on some

appropriately related belief without depending on other sources of justification in the way that a

derived source of justification like memory relies on a basic source like introspection. I'll call this type of

intuition "rational insight" in order to avoid confusion.[44] The category of fast cognitive process can also

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[41] Some might wonder whether the cognitive process that produces Descartes' "clear and distinct ideas" is the same as that which produces judgments in thought experiments. As I will explain below, my contention is first that the kind of intuition appealed to in thought experiments is the same as that which produces clear and distinct ideas. The difference between these cases is a matter of degree, not of kind.

[42] I qualify with the word 'directly' because one might argue that a purported example of basic justification like sense perception might rely on a source of *a priori* justification. One might not be justified in believing that it is raining without first possessing the concept of rain. However, this kind of dependence differs from the dependence that a source of justification like testimony has on sense perception. The term 'direct' is used to draw this distinction.

[43] Some might disagree that introspection is a basic belief generator. For the purposes of this project, nothing hangs on whether or not introspection is a basic belief generator.

[44] The term comes from Laurence Bonjour (1998) p. 102.

be considered a form of justification, but if so, it a derivative form of justification. It is a "shortcut" form of rational deliberation. As such, it relies on beliefs and cognitive processes acquired via other means. For instance, a veteran soldier might quickly form the belief that there is an ambush ahead. This belief is a product of considerable amount of data garnered through basic epistemic sources over years of experience. Without this data, the belief would not be present. I will use the term "snap judgment" to refer to the category of fast cognitive processes, thus dispensing with the term 'intuition' altogether.

Given that snap judgments are a derived source of justification, and given that rational insight is a basic source of justification, it is now clear that the two are not coextensive. A belief formed via snap judgment can be formed without dependence on rational insight. An athlete who's watched enough game film can form snap judgments about how to respond to a particular game situation based on this body of empirical observation. A belief formed via rational insight can be done without the use of snap judgments. The belief that modus ponens is a valid argument form is commonly thought to originate from a basic epistemic source, i.e. not derivative, thus not involving snap judgments. So, if this distinction holds, then conflation of the two types of intuition will result in erroneous assessments of arguments that appeal to intuitions. An example of this sort of confusion is the disputed appeal to "common sense" in metaphysical and metametaphysical debates. For instance, people object to a view like mereological nihilism because it denies that there are ordinary objects like tables. The claim that there are such objects is often defended by appeal to common sense. This is where confusion may arise. Is one justifying the belief that there really are ordinary objects by appeal to snap judgments, or by appeal to rational insight? Or perhaps neither? The phrase "common sense" is ambiguous between these two possible readings. From this point forward, I will be talking exclusively about rational insight. Any use of the word 'intuition' from now on will refer to rational insight, unless noted otherwise.

Having made this distinction, we now turn to rational insight. What is rational insight? Much of what I say here has already been covered in the literature,[45] although I will deviate in some important aspects. My understanding of rational insight relies heavily on points of similarity with basic belief generators like sense perception. One point of analogy between rational insight and sense perception is that just as sense perception has its own phenomenology, rational insight has its own basic phenomenology that is unique to it. Occasionally you'll hear the term "intellectual seeming" as a name for this phenomenology. The phenomenology of rational insight is the "feeling" that a particular proposition is true. Once you grasp the semantic content of a proposition like 'All dogs are dogs,' you will likely believe that the proposition is true for no other reason that that it just seems true to you. To use another phrase common in these sorts of discussions, the truth of such a proposition is "self-evident." This "seems true" experience is the phenomenology associated with rational insight.

The second point of analogy between rational insight and sense perception is that such experiences associated with either are fallible. You might have the visual experience of a puddle of whatever ahead on the road, but such an experience might not be veridical. It could turn out that such an experience was a mirage. Likewise, a certain proposition may seem true to you via rational insight, but then turn out to be false on closer inspection. For example, one might think that naïve set theory is consistent, but find out that it is inconsistent when one considers paradoxes like the one that Bertrand Russell famously gave.

Along similar lines, credence of beliefs arising from either rational insight or sense perception can admit of degrees. A belief that there is a bird in a tree when perceived from a distance of three hundred meters is likely to have a lower credence than when perceived from a distance of two meters. Likewise, for one who is relatively inexperienced in set theory, one will have a higher credence of belief

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[45] The literature includes Bealer (1987) (1996) (1998), Pust (2000), Bonjour (1998), Casullo (2012), and Sosa (1998).

that classical set theory is consistent, whereas for someone who is more experienced in set theory that credence will be significantly lower.

This point seems to be neglected in discussions about rational insight. There are some who might think that the faculty of rational insight behaves in a binary manner. It either produces a credence of one or zero with respect to a belief related to rational insight. Even if we don't take the analogy between rational insight and sense perception seriously, it seems clear that this binary view of rational insight is false. One reason to believe that the binary view is false is that individuals commonly report believing in the sorts of claims associated with rational insight with varying degrees of confidence. Thought experiments are a common means by which we can observe this phenomenon. It's not hard to collect this kind of data. Just observe reactions among your undergraduate students in your Philosophy 101 class when they are prompted by a typical thought experiment. Such data seems to provide at least *prima facie* evidence to believe that one's belief of a proposition generated by rational insight can admit of degrees of confidence and fallibility. The reader is also welcome to investigate his own phenomenology. I think that in doing so, you'll find that you have varying degrees of confidence in a variety of rational insight related beliefs. Some may worry that allowing for degrees of strength of experience would somehow undermine the reliability of rational insight as a source of epistemic justification. Such concerns seem unfounded, however, since sense perception also permits of degrees of confidence, and no one seems to doubt the reliability of the senses on the basis of this fact.

There are some second order skeptical concerns about rational insight as a justifier. This skepticism can be split into two types. The first kind of skepticism deals with whether rational insight produces any justified beliefs at all. The second kind deals with what sorts of justified beliefs rational insight generates. The first type of skepticism is basically the Cartesian evil demon form of skepticism. For this project, I will assume that the reader is not an evil demon skeptic, and I will bracket away this

type of skeptical objection. The second form of skepticism allows that rational insight reliably produces knowledge, but argues that it doesn't produce the kind of knowledge needed for an area of inquiry like revisionary metaphysics. This sort of skepticism will be the focus of the next four sections.

This concludes my survey section on the family of concepts related to a priori knowledge. The next task is to put all this together and see how all of this is related to metaphysical explanation and metaphysical knowledge. It turns out that we are still missing one key aspect of a priori knowledge that is often presupposed in skeptical critiques of metaphysical knowledge.

3. Neo-Positivist A Priori

In the previous section, I briefly explicated the following notions: the a priori, analyticity, concepts and conceptual analysis, modal epistemology, and intuitions. Now we put all these together. During roughly the first half of the twentieth century, many theorists believed that a priori knowledge was knowledge of analytic and necessary truths.[46] The three came together in a package deal. Furthermore, empirical knowledge was knowledge of synthetic and contingent truths. Due to efforts by the likes of Kripke et al., these packages have come apart, with demonstrations given of necessary a posteriori claims and contingent a priori claims.[47] Moreover, Kant himself argued against such a separation between a priori and empirical by attempting to demonstrate that there are synthetic a priori claims.[48] Quine, rather than pulling apart these notions, argued that the distinction is not well-founded, particularly the distinction between analytic and synthetic claims.[49] Thus, it is wrongheaded to claim that a priori knowledge was knowledge exclusively of analytic truths, since there was no such exclusive domain of such truths.

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[46] See Carnap (1950) sec. 2, Ayer (1936) pp. 16-18. See also the SEP entry on Logical Empiricsm.
[47] Kripke (1980).pp 34-39
[48] *Critique of Pure Reason*, Introduction, section V.
[49] Quine (1951) sections 3 & 4.

In spite of these developments, there still remains a widespread insistence that a priori knowledge is for the most part associated with analytic and necessary truths.[50] Such a persistence in making a distinction between a priori/analytic/necessary and empirical/synthetic/contingent is motivated in part by a so far implicit presupposition that I had alluded to at the end of the previous section. This presupposition has to do with what a priori knowledge is *about*. People like the Logical Positivists maintained this distinction partly because they held that a priori beliefs were not about the external world.[51] A priori knowledge is knowledge exclusively of our internal conceptual structure. Analytic truths are truths about the relationships between concepts. Since the Positivist view of the a priori relegates it entirely to internal conceptual schemes, it follows from this that a priori knowledge is entirely knowledge of analytic truths. Any claim that is true solely in virtue of meaning will be necessarily true, given that we accept certain logical principles.[52] From this it also follows that modal knowledge is merely knowledge about how our concepts are related. Moreover, rational insight is the means by which we come to acquire knowledge of our internal conceptual structure. The phenomenology of conceivability and the seeming truth of self-evident claims are how we come to believe analytic claims.

A priori knowledge, according to the Positivists, was knowledge exclusively about our inner conceptual structure. Empirical knowledge was knowledge about the external world. Positivists, in the long tradition of empiricism, held that sense perception was the exclusive means by which we come into epistemic contact with the external world. These are all epistemological theses. However, Logical Positivism, at its core, was a semantic thesis. While this semantic position has fallen out of favor, the

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[50] See Hirsch (2010), Price (2009), and Hofweber (2009) for instances of neo-positivist a priori with respect to quantifier semantics.

[51] See citations in footnote 45.

[52] There are some exceptions to this claim. Andre Gallois notes that claims involving indexicals like 'actually' can be analytically true, although contingently true. However, this doesn't seem sufficient to overturn the spirit of neo-positivism. See also David Kaplan (1989).

epistemological spirit of Positivism is preserved through the prevalence of naturalism in contemporary analytic philosophy.

As I understand it, one version of naturalism is a methodological view. With respect to knowledge about the external world, it places a certain amount of epistemic privilege on the scientific method. Naturalism is not just one unified view, but is rather ambiguous between a variety of views, each privileging science to a different degree. One can at least distinguish between something like strong naturalism, which holds that the scientific method is the only way by which we can come to have knowledge about the external world, to something like weak naturalism, which holds that we give slightly more epistemic weight to science vis a vis other means by which we come to have knowledge of the external world. Oftentimes, this privilege of the scientific method amounts to nothing more than empiricism, although it needn't be. So, although most would no longer identify as Positivists because they reject Verificationism as a semantic thesis, they are still Positivistic in spirit in that they still embrace and epistemological version of Positivism. As far as method is concerned, science is king, and whatever utility philosophy has is understood in terms of its benefit to science. Naturalists will more or less be suspicious of any claim to knowledge of the external world that comes about independently of scientific observation. Naturalists, in keeping with the spirit of positivism, will tend to relegate a priori knowledge to knowledge of our inner conceptual framework only. This position is what I called "neo-positivism" in chapter one. It is important to note that this is not the only type of naturalism available.

So what does this rather brief and slapdash survey have to do with metaphysical knowledge and metaphysical explanation? In order to answer this question, the first thing we need to do is to clarify on the distinction that I made in chapter one between neo-positivistic and revisionary metaphysics. This distinction is similar to what Peter Strawson makes in his 1959 book, *Individuals*. His distinction is between what he calls "descriptive" and "revisionary" metaphysics, and it has to do with what we take the goals of metaphysics to be. Under descriptive metaphysics, the goal of metaphysics is entirely

"internal." What I mean by that is that metaphysics seeks to expose and clarify the conceptual scheme individuals use to organize their experiences. Metaphysics merely "describes" our conceptual framework. Under revisionary metaphysics, the goal of metaphysics extends out to mind independent reality. The goal of revisionary metaphysics is to acquire knowledge about mind independent reality, which may run counter to the conceptual framework we employ to interpret that reality. As a result, some revision to our conceptual structure may be required in order to accommodate our findings about the external world. Revisionary metaphysicians may agree that part of the project of metaphysics is to expose and describe our currently held conceptual framework, but they will insist that the project does not end there.

As I laid out in chapter one, the sort of metaphysical knowledge that is pertinent to my project is revisionary metaphysical knowledge. This sort of metaphysics is what I take to be the metaphysics that many self-identifying analytic metaphysicians engage in. These are the sorts of individuals who take metaphysical disputes to be substantive, rather than merely verbal, and who often marshal scientific findings as evidence for the truth of their position.

Now that we've made this distinction, we can now link revisionary metaphysics to the above survey on a priori knowledge. A priori knowledge is crucial for revisionary metaphysical theorizing because it is what makes revisionary metaphysics unique as a field of inquiry. One could make the following rough generalization and plausibly be not far from the truth. Realist science[53] and revisionary metaphysics for the most part purport to be about the external world. Science investigates claims primarily via empirical methods. Science of course uses a priori theorizing, but it seems fairly clear that empirical observation is the ultimate arbiter in scientific inquiry. Revisionary metaphysics investigates claims via a priori methods. Like science, some amount of empirical observation might be relevant (see the next chapter). However, it is clear given the sort of argumentation found all over the literature in

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[53] Contrasted with the instrumentalist view of science. Instrumentalism makes no commitment to mind independent entities, but instead claims that science merely works with the observations. The inquiry ends there.

contemporary metaphysics that a priori claims play a significant role. If empirical observation played the

same central epistemic role in metaphysics as it does in science, then metaphysics would cease to be an

independent discipline and instead be viewed as a species of science.[54] So, preserving revisionary

metaphysics as an independent field of inquiry that produces knowledge requires that empirical

observation not be the ultimate arbiter in metaphysical inquiry. If metaphysical inquiry is not ultimately

decided by empirical observation, then either metaphysical inquiry has no resolution, or it is resolved via

other means. Let us suppose that metaphysical inquiry is somehow resolvable. Then it must be

resolved by means other than empirical observation. A priori knowledge seems to be the best available

candidate to serve as arbiter. If this is the case, then we must preserve the a priori as an epistemically

legitimate means to acquiring knowledge of the external world if we wish to preserve revisionary

metaphysics as an independent, legitimate field of inquiry.

What kind of metaphysics is epistemically possible, therefore, will depend on what the a priori

can give us knowledge about. Under the neo-positivist and naturalist purview, the a priori only gives us

knowledge of our inner conceptual framework. If this is the case, then only descriptive metaphysics is

possible. In this case, metaphysics serves as something of a conceptual housekeeper for science,

examining the conceptual relations held within a particular branch of science and between different

branches of science.

In sum, a neo-Positivist account of the a priori would look something like this. A priori

knowledge would be knowledge that is gained via rational insight. Rational insight is a faculty that is

directed exclusively towards our inner conceptual framework. A priori knowledge is thus knowledge

about relations held between concepts, i.e. a priori knowledge is knowledge of true analytic claims.

Concepts are mental entities that serve as tools for interpreting and organizing our sense and

introspective experiences only. Modal knowledge is knowledge of what is implied by our conceptual

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[54] See Kit Fine in his (2012) sec. 1.1 for a similar argument.

framework. To say that p is possible under this paradigm is simply to say that it is coherent with our conceptual framework. Such an account would only supportive a descriptive version of metaphysics.

4. A Priori Knowledge and Revisionary Metaphysics

The neo-positivist conception of the a priori, while perfectly compatible with descriptive metaphysics, largely precludes the epistemic possibility of revisionary metaphysics. By "epistemic possibility" I mean the possibility of acquiring knowledge. The foundational presupposition of revisionary metaphysics is that the mind independent world is epistemically accessible and could deviate from our presently held conceptual framework, thus possibly requiring a revision of our framework. If we employ the neo-positivist view of the a priori, then the kind of knowledge that revisionary metaphysics seeks via the a priori would not be possible, since that the neo-positivist view of the a priori holds that the a priori has no access of the external world. So, in order for the bulk of revisionary metaphysical knowledge to be possible, we need a different conception of a priori knowledge.

The key presupposition of the neo-positivist conception of the a priori is that it is exclusively directed towards our inner conceptual framework. Revisionary metaphysicians should of course reject this presupposition. Revisionary metaphysicians should believe that the a priori is not only knowledge about our internal conceptual scheme, but also knowledge about the mind independent world. In light of the fact that this is a view that revisionary metaphysicians should embrace, I'll call it the "revisionary a priori" as opposed to the neo-positivist a priori. According to the revisionary a priori, not only does the a priori give us epistemic access to our own conceptual framework, but it also gives us epistemic access to certain features of mind independent reality. Compare this to sense perception and introspection. One could plausibly believe that introspection is a kind of "inner sense," whereas sense perception is a kind of "outer sense." Revisionary a priorists will argue that there is something analogous with the a priori. There is an "inner a priori," which accesses our conceptual structure. But

there is also an "outer a priori" which accesses certain features of the mind independent world.[55] A

major aspect of the mind-independent world that I think the outer a priori accesses is what I call the

"structure" of the mind independent world.[56] I will discuss this in further detail below. So, whether or

not you think that there can be something like knowledge in revisionary metaphysics will primarily

depend on whether you think that we have some kind of relevant epistemic relation with the structure

of the external world. There is no denying that there is structure to our experiences. Our experiences

are not of some kind of indistinct blob, but rather have structuring features like duration, magnitude,

boundaries, relative locations, etc. The question is whether this structure in our experiences is

completely internally generated, or whether there is at least some structure in the external world that is

imposed upon us. This is something that I will try to argue for below.

The view that the a priori accesses the structure of mind independent reality is not an obscure

one, and has its support from those that might identify as neo-Aristotelians. For instance, Kit Fine

argues that the nature of things in the world, i.e. eidictic truths, are discovered via the a priori.

> The first [aim of metaphysics] is to provide a basis for the a posteriori eidictic truths (such as
> that water is by its nature H_2O) within the realm of the a priori. Thus ultimately the nature of
> things will be seen to have an a priori source (such as that water is by its nature H_2O if it is H_2O).
> The second [aim of metaphysics] is to provide a basis for all a priori eidictic truths within the
> realm of metaphysics. Thus ultimately the a priori nature of things will be seen to have a
> metaphysical source. [57]

Tuomas Tahko argues that an a priori claim like the principle of non-contradiction is a metaphysical

claim, and thus a claim about mind independent reality.

> At its simplest, the metaphysical interpretation of [the law of non-contradiction] amounts to
> this: the entities of the mind-independent reality are plausibly governed by some sort of
> principles (as otherwise there would be no order in our experience of them), that is, there are

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[55] Identifying as a revisionary metaphysician does not necessarily entail a commitment to the outer a priori. An
exceptional case would be something like a Berkeleyan idealist. To avoid confusion, when I speak about
revisionary metaphysics, I am bracketing aside these varieties of idealism.
[56] The notion of structure comes from Ted Sider in his *Writing the Book of the World* (2011) preface.
[57] Fine (2012) p. 12.

some constraints as to what kind of properties a certain kind of entity can and cannot have, and further, some of these properties are mutually exclusive. [58]

Ted Sider argues that structure, which includes formal claims like claims in first order logic, is a part of fundamental reality.

Call a language "fundamental" if all of its expressions carve at the joints. Realism about structure leads to realism about fundamental languages. On the generalized conception of structure, in order to be fundamental, it is not enough that a language have the right predicates. It must also have the right logical apparatus. Will a fundamental language contain quantifiers? The sentential connectives of propositional logic? Modal or tense operators? The realist about structure thinks that these questions have objective answers. There is a privileged way to "write the book of the world". [59]

In section two, I surveyed a family of ideas that are related to a priori knowledge. We are now in a position to see how these ideas are understood from a revisionary a priorist perspective. I talked about rational insight as a form of intuition that produces a priori knowledge, such as knowledge of truths in mathematics and logic. The revisionary a priorist can extend the scope of rational insight and claim that it produces knowledge of claims that are relevant to metaphysical theorizing. This is something that I will argue for in section six. I should also point out that I've been nonspecific about how rational insight is supposed to work as a mechanism that generates beliefs. All I've said so far is that we have a faculty that in some way interacts with the fundamental structure of the external world, this structure being non-accessible to empirical observation. I don't know if this interaction is causal or otherwise. For the purposes of this project, however, I don't need to be able to provide the details of how such a mechanism operates. Instead, the purpose of the project is to argue that there is such a mechanism that generates a priori knowledge via interaction with the external world. Such arguments will be given in the next section.

I also surveyed the notion of a concept. According to the revisionary a priorist interpretation of concepts, there are at least a few concepts that correspond with mind independent reality at the

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[58] Tahko (2009) p. 33.
[59] Sider (2011) p. 8.

fundamental level, and that we access via rational insight. These are what are often referred to as "joint

carving "concepts. A relatively uncontroversial example, although perhaps all examples may be

controversial to some extent, might be the concept of identity. Identity is a concept that we acquire by

our interaction with the world via rational insight. It corresponds to reality's structure.

Another surveyed notion was analyticity. According to the revisionary a priori view that I've laid

out, analytic propositions can be as much about reality as synthetic propositions. This is partly because

analytic propositions can tell us something about the modal structure of reality, and the modal structure

of reality is part of reality. At this point, it may be helpful to provide a contrast between the neo-

positivist and the revisionary metaphysician with respect to analyticity. The difference is that for the

revisionary metaphysician, there are at least some analytic truths that correspond to the mind

independent world. Let's pretend that the claim, "All triangles have three sides" is one such truth. We

can ask, why is it true that all triangles have three sides? A revisionary metaphysician would answer that

it is true in virtue of its correspondence to the structure of mind independent reality. Triangularity is in

some way part of the fundamental structure of reality. We know that the claim that all triangles have

three sides is true because we are privy in some way to the structure of fundamental reality via rational

insight. A neo-positivist would make no such claim about any analytic truth.

Finally, I surveyed the notions of conceivability and modal epistemology. According to the

revisionary a priori, conceivability (or at least one kind of conceivability) is understood as a mode of

rational insight. It is one means by which we come to have epistemic contact with the modal structure

of the mind independent world.

Weaving all this together gives us a fuller conception of the outer a priori knowledge that allows

for the possibility of evidence for revisionary metaphysical explanations. Outer a priori knowledge,

which is required for revisionary metaphysical knowledge, is one that gives us knowledge of external

reality. As a result, revisionary metaphysical knowledge requires that we dispense with the idea that the

only way to get knowledge of external reality is via sense perception, and that a priori knowledge can only give us knowledge about ourselves and our conceptual schemes. In sum, there is a means of obtaining knowledge about external reality that is not via the senses. Instead, this knowledge is attained via rational insight. It is through this means that we obtain certain concepts that correspond to external reality. Beliefs formed about these concepts can either be analytic or synthetic. Reasoning about these concepts, and thus reasoning about the structure of reality, can be done in part via modal epistemology. Rational insight, in the form of conceivability, provides us with epistemic access to what is possible and necessary. Evidence that is suitable for metaphysical explanation will thus be composed of beliefs brought about by the described means.

5. Arguments for the revisionary a priori

In the last section, I gave an account of what I call the "revisionary a priori." The revisionary a priori is a view of that takes the a priori to be an epistemic faculty that is sensitive to the external world. In other words, the revisionary a priori takes the a priori to be "outer a priori," a faculty that, like sense perception, can give us knowledge of mind independent reality. Such of a view of the a priori will construe concepts, rational insight, conceivability, and analyticity in similarly realist friendly ways, as detailed in the last section. Furthermore, I argued that the revisionary a priori is required in order for the project of revisionary metaphysics to be possible. Recall that revisionary metaphysics is a view that takes metaphysics to be an investigation of mind independent reality, rather than merely an investigation of our conceptual scheme. What I haven't yet done is argue for the plausibility of the revisionary a priori. Why think that the a priori is a faculty that is sensitive to mind independent reality? The focus of this section will be to answer this question. This section will proceed as follows. First I will raise concerns about the neo-positivist a priori. Recall that this is a view that holds that the a priori only gives us knowledge about our internal conceptual structure. I will argue that such concerns should leave us dissatisfied with the idea that the a priori is a strictly "inner" epistemic faculty. I will then proceed to

show that the outer conception of the a priori addresses the concerns that I raised, and provides us with

a more intellectually satisfying result.

One last qualification before I proceed. I assume that the reader believes that sense perception

provides us with some kind of epistemic access to mind independent reality. The reader is not bothered

by Cartesian style skeptical arguments, nor is she swayed by arguments coming from a postmodern or

post-structuralist worldview. The reader believes that epistemic activities like science really do provide

us with knowledge about the external world. This starting point is required for my arguments to get off

the ground.

I. Concerns about the neo-positivist a priori

Let us suppose first the neo-positivist a priori. What this means is that the a priori only

generates beliefs about certain things going on in our minds. For instance, the a priori generates beliefs

about how our concepts are related. Thus, the a priori makes no epistemic connection with anything

ontologically independent of the mind. This is what I called the "inner" a priori.

If we accept such a conception of the a priori, then there are certain things that we observe that

seem problematic. First, we observe that certain a priori beliefs are consistent across time and across

cultures. For instance, many beliefs involving rudimentary mathematics are uniform across time and

space. No matter where you find yourself, it is true that the person you are speaking to will agree that

two plus two equals four, or that ten is greater than seven. We find more examples in basic logic. There

is universal agreement that categorical syllogisms are a valid form of reasoning, or that contradictions

are false. Moreover, we find more evidence still when we observe language. Every language, ancient or

modern, has a grammatical structure that can be modeled at least to a rudimentary degree by classical

first order logic.[60] The fact that all languages have at least the same basic syntactic structure provides

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[60] This is an empirical claim, of course. Insofar as a language communicates via sentences that include a subject
and predicate (either being explicit or implied), then that language is capable of being modeled to at least some

some evidence to think that there is at least a basic form of reasoning that is uniform across time and culture. What explains this uniformity?

Compare this uniformity to the incredible amount of diversity that we observe across cultures when it comes to customs, religion, aesthetics, or ethics. Moreover, these beliefs are not only diverse, but also incompatible. It is not enough to accommodate the diversity by showing that one set of beliefs is a subset of another, or that the union of all such beliefs forms a consistent set. Why don't we also observe this kind of incompatible diversity with respect to a priori beliefs about basic logic and mathematics? The neo-positivist a priori fails to provide a satisfying explanation of this observation. Recall that the neo-positivist will confine a priori knowledge to knowledge of the interrelation of concepts. We observe that people in different cultures agree regarding the interrelation of concepts. What explains this agreement when there is so much diversity with respect to other beliefs? It doesn't seem necessarily the case at all that individuals across cultures agree about how concepts are related. For instance, it needn't be the case that everyone agrees that concepts are related by transitivity, i.e. if all Fs are Gs, and all Gs, are Hs, then all Fs are Hs.

Without any kind of "stabilizing" factor, we should expect to observe incompatible diversity. That is, when it comes to human behavior, diversity seems to be the norm. Given this norm, when we observe uniformity, we should be surprised, and thus seek to find something that stabilizes what we thought we be diversity. The neo-positivist a priori fails to provide any kind of stabilizing factor, and thus fails to provide a satisfying explanation as to why basic beliefs in math and logic are uniform. The only recourse I can think of when it comes to explanation is for the neo-positivist a priori to hold that it is a brute fact that the minds of individuals are similarly ordered such as to give rise to uniform beliefs in math and science. Appealing to such a brute fact, however, seems intellectually dissatisfying.

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degree by first order logic. Admittedly, I may not have looked hard enough, but so far I have not found a language that doesn't have this basic subject/predicate structure.

Not only do we observe uniformity of belief with respect to math and logic across cultures, but we also observe a fit between both math and logic and our sense observations in general, and science in particular. It is difficult to deny the extent to which math and logic are interwoven into the language of science. Consider how claims in areas as fundamental as physics and as derivative as economics are formulated. The fact that math and logic are both an integral part of science is one that is easy to take for granted. However, there needn't be any such connection between math/logic and science, given a certain conception of the a priori and a posteriori. Suppose, as stated above, that we are not external skeptics, and we take sense perception to be somehow epistemically connected to mind independent entities. Suppose further the neo-positivist conception of the a priori. Given these two assumptions, we should in fact be surprised by the tight fit that we observe between math/logic and science. Why is this so? We first need two more background assumptions, one that I had already mentioned in the previous argument. The first of these is that given the neo-positivist a priori, we should expect to see a variety of incompatible sets of math/logic. The second is that given that we have epistemic access to mind independent objects, we should expect a fairly high degree of uniformity with respect to empirical beliefs. This is the case because we assume that we as epistemic agents live in a shared reality, where we are accessing the same entities. Thus, two people with the same cognitive capacities observing the same object in the same environment from the same perspective should form the same empirical belief.

With these assumptions in place, the argument is quite simple. It takes the same approach as the one mentioned above. Neo-positivist a priori fails to explain why math/logic fits so well with science. It could have been the case that our system of math/logic deviated wildly with our empirical observations. Beliefs that are completely in our head need not accommodate beliefs that are generated by our senses. We can imagine a world where our empirical observations are the same, but where we believed that there are no non-natural numbers, and that there was no number greater than one thousand. In such a world, we have to would resort to another language to describe the behavior of

phenomena that is very large and phenomena that is very small. The neo-positivist about the a priori would have to grant the possibility of such a scenario. In fact, not only are such scenarios possible, we should *expect* them to be the case under neo-positivist a priori. Why aren't they? As with the argument given above about the uniformity of math/logic beliefs, the neo-positivist a priori doesn't give us a satisfying explanation as to why math/logic works so well at describing the empirical observations that we make in science. Again, it seems that the neo-positivist must take the fit between math/logic and science to be a brute fact. This, of course, is dissatisfying, especially given the alternative.

The third observation is the most basic of all. We observe that we have mathematical and logical beliefs. Furthermore, we observe that we had no control over the formation of these beliefs. I didn't choose to believe in the law of contradiction, nor did I choose to believe in principle involving symmetry and transitivity. If these beliefs weren't of my creation, then where did they come from? Compare these beliefs to ordinary beliefs from sense perception. It's plausible to think I have little to no control over the formation of empirical beliefs. Under unusual circumstances I might doubt whether such beliefs are justified, but it still seems the case that those beliefs came from somewhere, and that I didn't will them into my head.

We're not worried about the fact that the formation of empirical beliefs is not under our control. That's because we generally accept that there is some kind of mechanism that explains how those beliefs got there. Now consider the situation that the neo-positivist faces. We observe that the formation of beliefs like math/logic beliefs are generally not under our direct control. The neo-positivist agrees that such beliefs are not under our direct control. But, according to the neo-positivist, these beliefs are all in our head alone. They do not correspond to some mind independent reality. If this is the case, then how does the neo-positivist show how those beliefs got there in the first place? Any appeal to conventionalism or social construction seems to merely push the bump in the rug around. Of course, there's always the brute fact approach, but we've already seen that this is deeply unsatisfying.

The neo-positivist might respond to the charges I gave above in at least two ways. First, the neo-positivist might argue that the sorts of observations that we make about math and science (i.e. uniformity, fit with science, etc.) can be explained by appealing to their usefulness from an evolutionary perspective. The idea here is that being able to reason both mathematically and logically are traits that have been selected for. They are useful in the sense that individuals who are capable of reasoning in such a way are more likely to survive and pass on such traits to the next generation. The neo-positivist might argue that such usefulness explains why we observe the things we do about math and science.

Assuming that one is a realist about scientific observation, this response simply pushes my objection back one step. We can simply ask why such traits are useful to begin with. Human beings live in a mind independent world, where different features of the environment raise or lower the probability of survival. If usefulness is understood in terms of an increase in the probability of survival and reproduction, then the neo-positivist needs to explain why the ability to reason mathematically and logically raises the probability of our survival and reproduction. Compare this to a human's ability to digest certain plants and animals. Such an ability would be considered useful. The reason why it is useful is because there really are plants and animals out there that have the property of being nutritious when eaten. If math and logic are nothing more than notions in the mind that have no correspondence with mind-independent reality, then it should surprise us to find that such an ability is useful for survival and reproduction.

The second reply that the neo-positivist might make is to concede that beliefs in math and logic somehow correspond to mind independent reality, but to argue that these beliefs are generated empirically. In this case, there is no such thing as rational insight. All beliefs in math and logic are empirical beliefs. This view, or something like it, is attributed to John Stuart Mill.[61] The idea here is that we come to form beliefs in mathematics (and possibly logic?) by way of observation and induction. We

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[61] Mill, *System of Logic* (1843) book II ch. 7.

observe that taking three apples and adding three more gives us six apples. We also observe that three goats and three more also gives us six goats. After enough of these observations, we induce that at as a rule, three added to three gives us six. Repeat in a similar fashion for the other beliefs had about mathematics. In such a way, no appeal to any kind of rational insight is made, and thus the need for such a faculty is dispensed with.

Such an approach doesn't do enough, however, for it fails to explain how we acquired mathematical and logical concepts to begin with. In order to form the belief that three apples plus three apples sums to six apples, we need to have the concept of number and addition. Where did these come from, and why is it that nearly everyone, across time and culture have it? The empiricist approach to mathematics requires that there be a starting point at which we have a toolbox of mathematical concepts. From here, we arrive at mathematical rules via induction. This is fine if you want to avoid there being something like necessity in mathematics, but this is irrelevant for this debate. The empiricist still needs to explain where this toolbox of mathematical concepts came from. Thus, this response fails to escape the charges I laid out above.

II. Revisionary a priori's explanatory power

The power of the revisionary a priori is that it addresses all of the concerns raised above. The first concern was about explaining the observation that many a priori beliefs are uniform across time and culture. The revisionary a priorist explains this easily. The revisionary a priorist takes the a priori to be an epistemic faculty that is analogous to sense perception. The relevant similarity is that the a priori and sense perception both make some kind of epistemic connection to mind independent entities. Assuming that we all live in the same, shared reality, the explanation as to why people's a priori beliefs are uniform across time and culture is that the faculty of the a priori is epistemically accessing the same entities from person to person. This is similar to how we think about sense perception. The fact that people often have the same beliefs with respect to images is that they are all seeing the same thing. So,

according to the revisionary a priorist, people have the same a priori beliefs because their rational insights are connected to some way to some part of mind independent reality. For instance, people believe that ten is greater than two because their rational insight all point to some part of reality's structure that dictates how numerical values operate.

The revisionary a priorist can also easily explain why math/logic works so well in describing the things that we observe with our senses. The same mind independent reality that we access has features that we detect not only with sense perception, but also with rational insight. This mind independent reality has structural features, as well as phenomenal features, and these structural features are what we describe when we use the language of mathematics or logic. For instance, there are features such as magnitude, duration, and spatial extension that we describe using math. Our rational insight connects with some aspect of reality's structure, which gives rise to certain a priori beliefs about principles that govern the behavior of features like magnitude, duration, and spatial extension, like the belief that such features are transitive. Thus, there is no surprise, according to the revisionary a priorist, that science is so well described using math and logic.[62]

Third, and finally, the revisionary a priorist has no problems explaining why we have these sorts of a priori beliefs to begin with. Recall that when I asked this question above, I compared the generation of a priori beliefs to that of the generation of empirical beliefs. I claimed that we ordinarily have no issues with the generation of empirical beliefs. This is the case because we believe, perhaps naively, that the generation of empirical beliefs is explained by some kind of epistemic contact with a mind independent reality. However, the neo-positivistic a priorist has no recourse to such an explanation. A priori beliefs are seemingly generated in isolation, and thus there seems to be a problem explaining where these beliefs come from to begin with. The revisionary a priorist will of course explain the generation of a priori beliefs by appealing to some kind of epistemic connection to the same mind

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[62] Hartry Field attempts to show that science can be done without numbers, but this is beside my point. Field still relies on some kind of formalism do the work that he needs. See his (1980) ch. 4 & 5.

independent reality that sense perception epistemically accesses. Connection to this reality generates

beliefs in a manner that is similar to the way that sense perception generates empirical beliefs.

Thus, conceiving of the a priori as a mechanics that generates beliefs via some kind of epistemic

connection to mind independent reality does a great deal of explanatory work in areas where the neo-

positivist a priori falls short.   Such explanatory power makes for a more intellectually satisfying view,

and provides for compelling reasons to accept the revisionary a priori over the neo-positivist a priori.

III. Parallels with philosophy of science

It is also worthwhile to note a parallel between the arguments given here and some of the

debates found in the philosophy of science literature between scientific realists and instrumentalists.[63]

One well recognized argument for scientific realism is what is often called the "No Miracles" argument.

First, a brief summary of the positions. Instrumentalism maintains that all science does is help us in

making sense of observed phenomena. It does this partly by showing how the concepts that we use to

organize phenomena are related. It is skeptical as to whether such concepts correspond to external

reality. We subjectively impute structure onto reality by carving it in a particular way by the use of our

concepts. Science then comes in and tells us how these concepts are structured. scientific realism, on

the other hand, holds that among other things, science does more than merely organize our experience

and mind-dependent concepts. Science, under this view, gives us substantive information about the

structure of the external world. For instance, this structure could include laws of nature, or theoretical

entities. Here, concepts are not just the sorts of ideas that we impute upon the world. Instead, there is

an aspect of reality that informs at least part of our concepts. Science is therefore in the business not

just of making discoveries regarding sense phenomena. It is also in the business of making conceptual

discoveries. The parallels between Instrumentalism and neo-positivist a priori and between scientific

realism and revisionary a priori should be clear. Now on to the argument.

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[63] See Stathis Psillos (1999) ch. 4 & 5 for a survey of the debate.

The No Miracles argument is basically a form of inference to the best explanation. The data to be explained is the success of science.[64] By "success" we mean the ability that science has had in allowing humankind a tremendous amount of control over the natural world. This control has allowed humans to thrive in what would otherwise be a dangerous environment. Scientific realists argue that the best explanation for the success of science is that the best scientific theories are true, i.e. that there is some aspect of reality that the theories correspond to. If science didn't correspond to reality, then its success would seem to be "miraculous."

Again, the parallels between the No Miracles argument and the arguments that I gave above should be clear. I argued above that the best explanation for the noted observations is that our a priori faculty works in the manner described by the revisionary a priorist. What I will argue now is that the above arguments, particularly the argument from fit between math/logic and science, demonstrate the epistemic success of math and logic. And so, just as in the No Miracles argument for scientific realism, this success gives us good reasons to think that the revisionary a priori view is the correct one.

Both the arguments for the revisionary a priori and for scientific realism take the typical IBE form:

1. We observe that science, math, and logic are successful epistemic enterprises.
2. The best explanation for this is that science, math, and logic at least partly correspond with reality.
3. Therefore it is likely that at least part of science, math, and logic correspond with reality.

Each premise of course requires elaboration and defense.

Premise one states that we observe that math and logic are a successful epistemic enterprise. What does this mean? Success in science can be described in terms of predictions and retrodictions. We consider science to be successful at least in part because it reliably tells us how certain things will go in the future, and it also explains why certain things happened in the past. Furthermore, we might

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[64] Putnam (1975) p. 73.

consider science to be successful because it grants us a greater degree of control over our environment. For instance, it gives rise to technologies that allows us not only to survive as a species, but also flourish. What does it mean for math and logic to be "successful?" As I had argued above, the success of math and logic can be understood largely in terms of its fit with science. We can make the point more generally. It needn't be the case that our mathematical and logical beliefs fit at all with our ordinary experience, let alone our scientific observations. Recall that I had assumed the reader not to be an external world skeptic. This implies that our sense data is not merely data, but something that epistemically connects with some aspect of the external world. If our a priori beliefs don't correspond to any external reality, then this opens the possibility that our a priori beliefs and our empirical beliefs diverge. However, we find that math and logic are indispensible for navigating the world around us. This not only includes science at every level of abstraction, but also varieties of practical matters. To the extent that logic and math are indispensably interwoven in our theory and practice, they are deemed to be an epistemic success.

Premise two claims that the success of math and logic is best explained by its correspondence with reality. Of course, "best" implies competing explanations. I've already shown above how the revisionary a priori stacks up against its main competitor, the neo-positivist a priori.[65] This comparison between the revisionary and neo-positivist a priori is worth revisiting. In science, the No Miracles argument suggests that competitors of Scientific Realism are committed to the view that the success of science is somehow miraculous. It's not clear how we should take the notion of miracle in this context. The way I interpret it is in terms of probability. It's perhaps similar to how placing a message in a bottle,

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[65] Some might insist that such an argument to the best explanation only works if we can somehow articulate what it is that epistemically connects us to necessary truths. (See Benacerraf (1973) for a statement of this sort of epistemological worry.) This gist of this worry seems to be that there is a tradeoff between two mysteries. The neo-positivist mystery is that we have these a priori beliefs that are uniform across time and culture, fit well with science, and are not under our control, and yet we don't have any good explanation as to how we got these beliefs. The revisionist mystery is that we have this faculty that gives us epistemic access to a priori truths, but we don't quite know how this faculty works. I argue that the need to resolve the first mystery is more pressing.

tossing it in the ocean, and having it reach its intended recipient halfway across the world might be considered "miraculous."

In both the cases of science and math/logic, the key assumption is that the tools of science, math, and logic, didn't have to work. Science could have been an awful tool. We could have employed the scientific method, but have resulted in no new knowledge. The results of hypothesizing and experimenting may have failed to make any accurate predictions about what we might experience. One could say something similar about math/logic. Math and logic could have been terrible as an epistemic device. We could have employed a variety of calculations and ratiocinations and found that our experience does not line up at all with our theoretical results. If we accept the possibility of a disconnect between our theorizing and our experience, then the need for explanation becomes more compelling.

7. Defense Against Skeptical Attacks of the Revisionary A Priori

In chapter one of the dissertation, I gave some quotes of individuals who expressed skeptical concerns about what I call the revisionary a priori. Here I will examine their arguments in more detail and provide responses to their objections.

Everything Must Go is a sustained attack mounted against revisionary metaphysics by James Ladyman, Don Ross, David Spurrett, and John Collier. Their criticism of revisionary metaphysics, what they call "neo-scholastic" metaphysics, actually only takes up one chapter. The rest of the book is focused on the development of their own view of metaphysics and philosophy of science. Ladyman et al begin section 1.2.1 of chapter one with the following:

> The idea that intuitions are guides to truth, and that they constitute the basic data for philosophy, is of course part of the Platonic and Cartesian rationalist tradition. However, we have grounds that Plato and Descartes lacked for thinking that much of what people find intuitive is not innate, but is rather a developmental and educational achievement. What counts as intuitive depends partly on our ontogenetic makeup and partly on culturally specific

learning. Intuitions are the basis for, and are reinforced and modified by, everyday practical heuristics for getting around in the world under various resource (including time) pressures, and navigating social games; they are not cognitive gadgets designed to produce systematically worthwhile guidance in either science or metaphysics. [66]

Ladyman et al note that neo-scholastic metaphysics often relies on this intuition as a form of evidence for metaphysical theorizing.

> …Metaphysicians place great emphasis on preserving common sense and intuitions. Michael Loux and Dean Zimmerman explain the methodology of metaphysics as follows: 'One metaphysical system is superior to another in scope in so far as it allows for the statement of satisfactory philosophical theories on more subjects – theories that preserve, in the face of puzzle and apparent contradiction, most of what we take ourselves to know'. Here is a conception of metaphysics according to which its function is to reassure the metaphysicians that what they already believe is true.[67]

Their argument looks something like this. Intuition, due in part to its cultural and biological variation, is not a legitimate source of evidence for metaphysical theorizing. Neo-scholastic metaphysics relies on intuition as a source of evidence. Therefore, justification for beliefs in neo-scholastic metaphysics is undercut, since it relies on an illegitimate source of evidence.

This argument is unsound because it conflates the distinction I made earlier in this chapter between snap judgments and rational insight. Disambiguating on the term 'intuition' will show that one or the other of the premises is false. Suppose we interpret 'intuition' as rational insight. Then the premise that intuition is not a legitimate source of evidence for metaphysics is false. Rational insight, among other things, produces beliefs in mathematical and logical claims. These sorts of claims seem plausibly relevant as evidence in metaphysical theorizing. Suppose instead that we interpret 'intuition' as snap judgment. We might concede that the first premise (i.e. intuition is illegitimate) is true, but now we can contest the second premise, i.e. that neo-scholastic relies on intuition as evidence. It is not clear to what extent Ladyman et al think that neo-scholastic metaphysics relies on intuition as evidence, but what they seem to suggest is that the extent of the reliance is enough to make neo-scholastic

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[66] p. 10
[67] p. 12

metaphysics illegitimate. If this is the case, and if we interpret 'intuition' as snap judgment, then we can reject the second premise as false. While there may be some reliance by neo-scholastic metaphysicians on snap judgments as source of evidence, it is not to the extent that Ladyman et al seem to think it is. Since neo-scholastic metaphysics also relies to some significant degree on rational insight as a source of evidence, it is false to claim that neo-scholastic metaphysics is epistemically illegitimate by virtue of its reliance on some faulty evidential source.

Uriah Kriegel also raises some epistemological concerns about revisionary metaphysics in his article, "The Epistemological Challenge of Revisionary Metaphysics". Regarding intuitions, Kriegel distinguishes between what he calls "singular" and "general" intuitions. Singular intuitions are intuitions whose propositional content is about whether some particular object falls under some concept. General intuitions are intuitions whose propositional content is about some general principle. Intuitions about Gettier cases are examples of singular intuitions, whereas an intuition about the truth of the principle of causal closure is an example of a general intuition. Kriegel proceeds to argue that neither forms of intuition provide evidence for revisionary metaphysical theories.

Regarding singular intuitions, Kriegel provides the following summary:

> To summarize, singular intuitions clearly play the role of evidence in the enterprise of conceptual analysis, not a way of doing *revisionary* metaphysics. Unless we can show that conceptual analysis can play double duty as a method of revisionary metaphysics as well, or that singular intuitions can be evidence for revisionary metaphysical theories in some other fashion (unrelated to conceptual analysis), singular intuitions would appear irrelevant to revisionary metaphysics. [68]

So, Kriegel issues two challenges: either show that conceptual analysis plays kind of evidential role in metaphysics, or show that there are singular intuitions that aren't related to conceptual analysis, but are still relevant as evidence for revisionary metaphysics. Whether or not conceptual analysis plays a relevant evidential role in revisionary metaphysics is probably a controversial issue. I do think that there

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[68] p. 9.

are cases in which conceptual analysis does play an evidential role. This view, however, stems from my theory of the a priori, in which one can come to know analytic truths about the external world. In this case, it's possible that conceptual analysis on notions like causation or free will might give us substantive evidence in revisionary metaphysical debates. However, since this depends on a controversial presupposition, I'll set this aside for now and move to the next challenge.

Regarding the second challenge, we have instances of singular intuitions that aren't related to conceptual analysis, but still relevant as evidence. These are cases in which we intuit instances of primitive concepts. For example, identity is typically considered to be a primitive concept. However, we often find cases in which some instance of identity or distinctness is considered evidentially relevant. Consider material constitution cases. We might have intuitions regarding the purported identity of some ordinary object and the material that composes it. These intuitions seem both to be relevant as evidence and also singular intuitions. However, they do not seem to be intuitions involving conceptual analysis. The same might be said regarding instances of concepts like change, location, parthood, etc. Thus, we see that there are could be cases of singular intuitions that do serve as relevant evidence in revisionary metaphysics.

With respect to general intuitions, Kriegel raises a concern that seems to apply generally to all types of intuitions, including the singular intuitions mentioned above. He starts with this question: "When one believes that *p* on the basis of intuiting that *p*, what proposition is supposed to be evidence for *p*?" He considers the following three possible answers to that question:

1. When one believes that *p* because one intuits that *p*, *p* constitutes evidence for itself.

2. When one believes that *p* because one intuits that *p*, <I intuit that *p*> is evidence for <*p*>.

3. When one believes that *p* because one intuits that *p*, there is some proposition *q* that is

    evidence for *p*, such that (i) *q* ≠ *p* and (ii) *q* bears some intimate relation R to the intuiting of *p*.[69]

Kriegel then proceeds to show that none of these answers are convincing. What I take this to

accomplish is that justification for beliefs in revisionary metaphysics is potentially undercut. In order for

p to serve as evidence for some revisionary metaphysical theory, there must be some story to be told

about how one's intuition that *p* provides evidential support for *p*. Kriegel argues that there is no

convincing story to be told, thus we fail to secure second order justification for *p*, and so instances of *p*

(which I assume take the form of general, a priori metaphysical principles) do not serve as evidence for

theories in revisionary metaphysics.

My own project bears more similarity to the second answer to the above evidence question

relative to the other answers. So, I will focus on responding to his concerns regarding this second

answer. Regarding this second answer, Kriegel first notes that a plausible instance of this second answer

would be reliabilist theories of justification with respect to sense perception. He then compares this to

intuition:

> Perhaps the same could be said of intuition: if general intuitions are truth-tracking, in that one
> tends not to intuit that *p* unless *p* obtains, then <I intuit that *p*> is a reliable indicator of, and
> hence evidence for, <*p*>. This gives us a model of how general intuitions could be said to
> constitute evidence for the intuited proposition. Unfortunately, the analogy seems to break
> down when we consider what might *underlie* intuitions alleged truth-tracking character. What
> underlies it in the perceptual case, it seems, is a broadly causal (or nomic) connection between
> perceived and perceivings. The exact nature of this connection is a matter of considerable
> debate, but is in any case unlikely to hold between intuited and intuitings. Again the issue has
> to do with the intelligibility of causal (and nomic) connections between abstract entities and
> concrete mental events and states.[70]

So, in order for us to accept the idea that intuitions are truth-tracking, Kriegel demands an account of

how this truth tracking is supposed to work with respect to intuitions. He argues above that a causal

story will be inadequate for intuitions. He also doesn't think that a non-causal story will work either:

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[69] pp. 12-13

[70] p. 13.

Even setting aside causal considerations, the deep insight behind the Reliabilist approach to justification seems to be this: a mental state displays sensitivity to the way the world is when part of the explanation of why that state occurred (and not another) is that the world is the way it is (and not another way). Thus when *p* is part of the explanation of why S believes that *p*, that casts S as appropriately sensitive to the way the world is. But when we try to explain how Kim came to intuit that the physical realm is causally closed, it seems like the wrong explanation to say that the physical realm's causal closure made him intuit this. That explanation of how Kim came by the intuition feels odd and unsatisfying.[71]

Before proceeding with my response to Kriegel, it's worth being clear about what's going on here with respect to justification. There are three claims involved in this story. First, there are the kinds of claims that are the focus of this dissertation, i.e. metaphysical claims. Call these sorts of claims M. The main focus of this dissertation is to show how beliefs in M can be justified. Beliefs in M are justified if they play a role in explaining the relevant evidence. Call these claims E. In this case, E would consist of claims like a priori metaphysical principles. We can ask further questions about whether beliefs in E are justified. If beliefs in E are not justified, then there is no evidence for M to explain, and thus beliefs in M potentially lose their justification (assuming that there is nothing else that can justify belief in M). When addressing the question regarding the justification for E, one might appeal to something like what Kriegel describes in (2) above, i.e. some claim about one's intuition that that E. Call these claims INT. We can then ask questions about whether or not claims like INT are justified, and if so, how. In sum, we have justificatory questions about M. I answer these questions by appealing to M's explanatory role with respect to E. We then have justificatory questions about E. I answer these questions by appealing to INT as a justifier for E. Now we are left with justificatory questions about INT.

I conceded above that I don't have a detailed account of how rational insight generates the relevant beliefs. Thus, I have no good answer for how claims like INT are justified. Perhaps Kriegel is just making the claim that in order for beliefs in INT to be justified, we need to have some account of how intuition or rational insight tracks truth, and also that we don't have such an account. If this is his claim, then I am in general agreement. I do think that some story of how rational insight tracks truth is

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[71] pp. 13-14.

probably required in order to be justified in believing INT. Furthermore, since I don't have such a story

currently, I am prepared to accept that my belief in INT is not justified. However, if Kriegel is claiming

that lack of justification for INT defeats justification for E, then I disagree. I don't think I need to give an

account of how INT is justified in order to show that my beliefs in E are justified. Here I will take

something like a Moorean approach. Unless one is a skeptic of a priori knowledge, one already accepts

that we have a body of justified a priori beliefs. Many of these beliefs are ordinary beliefs, such as the

belief that triangles have three sides, or the belief that the sum of two even numbers is always another

even number. To demand that some story about how rational insight tracks truth be told as a

prerequisite for justification would imply that we don't have any justified a priori beliefs absent some

convincing story. This result seems too extreme. Consider the analogous case with empirical

knowledge. A skeptic might demand that we tell some kind of story about how sense perception tracks

truth in order for our empirical beliefs to be justified. Moore's point was more or less that we don't

have to acquiesce to the skeptic's demands.[72] Providing an account of how truth tracking works is

valuable in providing further insight, but it is not a prerequisite to justification.

One might accept that we have justified beliefs in perceptual cases and in cases of math and

logic without requiring that there be some kind of account that explains how justification happens.

However, for individuals like Kriegel, it seems that cases regarding beliefs in revisionary metaphysics are

an altogether different matter. This strikes me as applying an unfair double standard. When it comes to

empirical beliefs, explaining why you believe there is a tree in the field by claiming that there really is a

tree in the field, and that tree interacts with my vision in some way to produce the belief that there is a

true seems reasonably satisfactory. However, making analogous claims when it comes to revisionary

metaphysical beliefs strikes Kriegel as "odd" and "unsatisfying." I've argued in the previous section that

we have some good reasons to believe that there is such a faculty that I call rational insight that

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[72] See G.E. Moore, "A Defence of Common Sense" in (1993).

generates justified a priori beliefs via interaction with the external world. While I don't have a detailed account of how this occurs, my contention is that I don't need to have such an account in order for my a priori beliefs to be justified, and thus to have relevant evidence for revisionary metaphysical theorizing. (It's worth noting that Kriegel himself, in the first quote given above, admits that there is no non-controversial story to be told about how truth tracking works in sense perception. If we don't need to sort things out in order to have justified empirical beliefs, then why do we need to do so in order to have justified a priori beliefs that are relevant evidence for revisionary metaphysical theories?)

James Maclaurin and Heather Dyke, in their article, "What is Analytic Metaphysics For?", also mount an objection to the legitimacy of intuition in revisionary metaphysics (what they call "non-naturalistic metaphysics"). There primary contention is that non-naturalistic metaphysics, defined as making ontological claims about entities in the external world and being a purely a priori enterprise, "can have no practical benefit to anybody." They continue:

> In particular, it can make no difference to science which of a range of metaphysical theories is true. Many scientists study properties in the world, but prima facie it makes no difference to them which metaphysical theory of properties is true. Many scientists also study causes and effects, but it makes no difference to them which metaphysical theory of causation is true. Since non-naturalistic metaphysics makes no difference to scientific investigations, it cannot claim, as it does, to be part of the pursuit of knowledge about the objective world. [73]

The key claim here is that in order for some subject to be about the objective world, it must somehow affect scientific inquiry. First, one can point to cases in metaphysics that are relevant in science. Consider interpretations of the measurement problem in quantum mechanics. It's not heard to see a connection between Lewis's modal realism and the Everett interpretation. One upshot here is that metaphysics can serve to generate ideas and new areas of research in science. So, we can see in one way how metaphysics can and does impact scientific inquiry.

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[73] p. 299.

Second, and more importantly, one can question whether or not the claim that something must have an impact on scientific investigation if it is to be considered a legitimate inquiry of the external world. Why should we think that this claim is true? This is a point that the authors have not argued, and it seems to betray a bias towards empiricism. Why must everything go through science if it aims at investigating the mind independent world? As I've shown above, we have good reasons to think that there are means by which we can obtain knowledge of the external world other than through sense perception.

What is evident here is that when it comes to knowledge of the mind independent world, there is a bias towards science and empiricism. Attempts at investigating the world apart from empirical observation are seen as "esoteric", "mysterious", or "magical". This is unfortunate. Perhaps this is due in part to the intellectual history of western civilization, particularly with the conflict between early modern scientists and the Catholic Church during 16th and 17th centuries. However, such a skewing towards empiricism throws the proverbial baby out with the bathwater. Although we don't fully understand the mechanism by which we come to acquire a priori knowledge of the external world, it seems clear, as I've argued above, that we do have such knowledge.

6. The Nature of A Priori Metaphysical Evidence

In the last two sections, I argued for a revisionary conception of the a priori. This is a conception that takes a priori knowledge to include knowledge of claims about the mind independent world. In this section I'll talk about the idea of a priori knowledge serving as evidence for metaphysical beliefs. The claim that I want to argue for here is that all a priori knowledge can serve as potential evidence for metaphysical beliefs. This doesn't just include a priori knowledge that is traditionally considered metaphysical. For instance, claims like a ball can't be all red and all green all over simultaneously, or the claim that the same object cannot wholly occupy disjoint regions of space simultaneously would be candidates for this kind of traditionally metaphysical a priori knowledge. In addition to these, a priori

knowledge from mathematics and logic would also be considered potentially relevant evidence for metaphysical beliefs.

One might think that there isn't much overlap between a formal subject like logic and metaphysics. What does set theory or mathematical logic have to do with metaphysical issues? What I want to show first is that there are cases where the distinction between logic and metaphysics isn't so clear cut. The first case is that of identity.

Identity is a notion used in both logic and metaphysics. There are logical rules about how it works in chains of inference. For instance, the rule of identity transitivity allows us to infer that Darth Vader is Luke Skywalker's father from the premises that Darth Vader is Anakin Skywalker, and Anakin Skywalker is Luke's father. However, there are also rules about identity that are centrally used in metaphysics. One such rule is the indiscernibility of identicals, which states that if x and y are identicals, then whatever property x has, y also has. More controversially, there is also the identity of indiscernibles, which states that if y has whatever property x has, then x and y are identical. Why think that transitivity is strictly a "logical" rule? Moreover, why think that the indiscernibility of identical is strictly a "metaphysical" principle? There doesn't seem to be any non-arbitrary reason to divide these claims into their logical and metaphysical camps.

A second case to examine is that of quantification. Again, there are "logical" rules about the behavior of quantifiers. For instance, there are transformation rules telling us that a negated existential, $\neg\exists xFx$, is logically equivalent to a universal negative, $\forall x\neg Fx$. Likewise, there are "metaphysical" rules about quantifiers. For example, there is the (disputed) rule that existence is univocal. What this rule means is that there is only one domain over which the existential quantifier ranges. Just as with the last case, it doesn't seem at all obvious that one rule is strictly logical, whereas the other rule is strictly metaphysical.

The upshot so far is fairly straightforward. The nature of metaphysical evidence spans much of what counts as a priori knowledge, including knowledge of logic and mathematics. This knowledge is coupled knowledge of other claims and principles that may be seen as traditionally belonging to metaphysics. The above examples purport to show that there is no difference in kind between these claims and the claims found in logic and mathematics. All such claims can be considered as potentially relevant evidence for metaphysical beliefs.

One observation we can make here is that there is a distinction between two kinds of claims that can serve as evidence in any field of inquiry about the external world. One type of evidence can be loosely labeled "content." This is the kind of evidence is what we receive via sense perception. It includes stuff like information received via light waves acting on light cones, or sound waves acting on the eardrum. What exactly this information amounts to will be addressed in the next chapter. The second type of evidence is loosely labeled, "structure." [74] What is structure? Information that we receive via sense perception is processed. We separate and organize this information into various categories, and quantify over them. This kind of story about how we understand the world around is familiar to those who have even a cursory knowledge of the history of philosophy. The fact that we undertake this kind of processing indicates that there is more information that we have access to than just what we receive via sense perception.   Just as we receive content information via sense perception, we receive structure information via the a priori. Adopting this kind of structural perspective on mathematics and logic sheds a different light on these subjects. Math and logic are not mere formalisms. Rather, they are potential insights into reality's structure. As such, they can place constraints on which sorts of metaphysical beliefs end up counting as knowledge. Again, if we accept the revisionary a priori theory, seeing mathematical and logical knowledge as knowledge of reality's structure shouldn't be problematic.

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[74] See Sider (2011) preface.

That logic and math are seen as investigations into reality's structure, and are potentially considered evidence for metaphysical beliefs should come as no surprise. It is common to see a fair bit of formalism in the contemporary literature on metaphysics. We can see this early on with Bertrand Russell's use of definite descriptions to solve problems involving ontological commitment.[75] We also observe a close connection between the metaphysics of ordinary objects and formal work of Nelson Goodman and Henry Leonard in mereology.[76] Similarly, we see the development of something like S5 modal logic finding its way into the literature on modal metaphysics. What we observe in many of these cases is that the claims made on the formal side give evidential support to claims made on the metaphysical side. For instance, the theorems of classical extensional mereology are cited as evidence in support of a univeralist view about objects (i.e. the view that says that there is an object that is composed of my nose, the Eiffel Tower, and the Moon).

7. Conclusion

Here's the wrap up. In section one I talked a bit about what I took evidence to be. There are metaphysical as well as epistemological considerations when it comes to evidence. I focused on the epistemological considerations, focusing on an agent's knowledge as evidence as well as belief generating mechanisms as evidence generators. I also touched on the distinction between potential and relevant evidence. In section two, I give a quick survey of a family of concepts related to the a priori, show how the a priori operates as an evidence generator and what sorts of evidence it produces. In section three, I gave a quick characterization of what I called the "neo-positivist" a priori, wherein a priori knowledge was knowledge exclusively of our inner conceptual framework. I showed that while this may be compatible with descriptive metaphysics, it was not compatible with revisionary metaphysics. The sorts of evidence produced by the neo-positivist a priori is not the sort that is relevant for revisionary metaphysical theorizing. In section four, I proposed what I called the "revisionary" a

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[75] Russell (1905).
[76] Goodman and Leonard (1940).

priori, where a priori knowledge was knowledge not only of our inner conceptual framework, but also knowledge of the structure of the mind independent world. Access to this structure is what is required in order to have evidence that is relevant for revisionary metaphysical theorizing, and thus required for revisionary metaphysics as a field of inquiry. Section five is where I gave arguments for the revisionary conception of the a priori. I argued that the revisionary conception explains certain observations better than the neo-positivist conception of the a priori, and is thus a more intellectually satisfying account. In section six, I gave responses to some arguments given in the literature against revisionary a priori knowledge. Section seven is where I argued that all a priori knowledge serves as potential evidence for metaphysical theories. There is no real distinction between what we might call "formal" a priori knowledge, i.e. knowledge of logical and mathematical truths, and "metaphysical" a priori knowledge. All a priori knowledge is knowledge that metaphysical theories will seek to explain.

Chapter IV: Metaphysical Beliefs and Persisting Disagreement

0. The story so far

In chapters 2 and 3, I went into some detail about the various components of epistemic justification for metaphysical beliefs. Chapter 2 was devoted to the notion of explanation. After some discussion on the concept of explanation, I went on to focus on metaphysical explanation in particular, and how it is generally understood as a kind of "in virtue of" relation. I used the familiar inferential pattern of Inference to the Best Explanation (IBE) as a model of how explanation acts as a justifier. Finally, I showed how metaphysical explanation fits into the IBE model and thus how it acts as a justifier for beliefs in metaphysical propositions.

Having gone through some discussion of explanation in chapter 2, chapter 3 focused on a priori evidence. There were basically three parts to this chapter. The first part was a survey on the notion of the a priori and related notions, such as intuition, conceptual analysis, and conceivability. This part focused mostly on clarification and laying conceptual groundwork. The second part of the chapter is where I argued for a conception of the a priori that was friendly to what is known as "revisionary" metaphysics. Revisionary metaphysics is a conception of metaphysics that allows for the possibility that our conceptual framework is incorrect and thus revisable in light of discoveries about the external world. The revisionary friendly notion of the a priori is what I called "outside" a priori. It is an a priori faculty that accesses mind independent reality. This is the faculty by which we come to gain knowledge of, among other things, the mathematical and logical structure of the world. The third part of the chapter gave arguments in support of the revisionary a priori and also provided defenses against skeptical objections found in the literature.

Now that we are up to speed, we can move on to the focus of this chapter, which is primarily about disagreement in metaphysics, and how this relates to the epistemic justification of metaphysical beliefs. We'll transition into those topics by first considering some case studies.

1. Two case studies

Most people reading this chapter will be familiar with the problem of material constitution. If not, here's a quick rundown. Suppose that you see a statue on a table. It would be plausible to also suppose that you see a mass of clay in that same space. After all, the statue is a clay statue. What exactly is the relationship between the statue and the mass of clay?

Suppose we answer this question by stating that the statue is identical to the mass of clay. This leads us to the following problem. Suppose that you start with the mass of clay in the morning. A sculptor takes that clay in the afternoon and forms it into a statue. Here's where the problem begins. The mass of clay has the property, "being a mass of clay in the morning." The statue does not have this property, since it did not exist in the morning.[77] Why is this a problem? Because there are several underlying presuppositions. The first is the principle of the indiscernibility of identicals, that is, if x and y are identical, then for any property, x has that property just in case y has that property. The second assumption is that non-occurrent properties, i.e. properties not had either in the present time or in the actual world, are the sorts of properties that can be quantified over in the principle of the indiscernibility of identicals. Thus, the identity answer to the constitution question, i.e. statue and clay are identical, poses a problem because it violates at least one of these assumptions.

Another way to think about this is that the problem arises because we take the aforementioned assumptions as relevant evidence, i.e. constraints, for metaphysical theories. If these are indeed considered as relevant evidence, then the identity theory fails as an explanation, since it is not consistent with the evidence at hand.

Suppose we hold that the relation holding between an object and its constituting material is not the identity relation. It follows immediately that the object and its constituting material are distinct. If we accept this conclusion, then we are presented with a state of affairs that some find counterintuitive,

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[77] There are lots of ways of generating this puzzle, including modal, temporal, or compositional versions. Pick your favorite if this version doesn't suit your fancy.

that state being what some call "co-location." Co-location occurs when two distinct objects wholly

occupy the same region of space at the same time. If we admit as evidence the principle that co-

location is impossible, and if we assume that quantities of matter are the sorts of things that can be

individuated and quantified over, then the view that an object and its constituting material are distinct is

also inconsistent with the evidence at hand.

In general, Michael Rea, in his excellent introduction to material constitution, explains that what

creates the puzzle are the following sorts of observations.[78]

1. There exists a statue and there exists a mass of clay that composes it.

2. The composition of the mass of clay is essential to it.

3. The composition of the statue is not essential to it.

4. If statue and clay share all of the same parts at the same time, then statue and clay are identical.

5. If statue and clay are identical, then it is necessary that they are identical.

One can see these observations as potentially relevant evidence. The lesson that emerges

should be clear. Whether or not a theory is left on the table for consideration will depend on what we

admit as relevant evidence. Metaphysical puzzles often arise when no theory is consistent with all of

the relevant evidence. Proceeding in this discussion often amounts to a rejection of at least one of the

aforementioned observations. Different views, such as contingent/temporary identity, dominant

sortals, colocation, or nihilism do just that. It seems that so far in this discussion, there has yet to be a

theory that is consistent with all of the evidence. Until someone formulates this silver bullet theory,

participants in the debate will have to negotiate over which assumptions to accept or reject.

Compare this situation to another case study. In this instance we're going to take a look at the

debate between the varieties of Platonism and the varieties of Nominalism about properties.[79] In this

case, we start with several observations. First is what is known as attribute agreement. We note that

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[78] Rea (ed.) (1997) pp. xxi-xxiv.
[79] The following examples are lifted from Loux's Routledge Guide to Metaphysics (1998) ch. 1.

we can relate the things that we observe. We observe commonalities between entities. For instance, I observe that my computer monitor and my keyboard have a rectangular shape in common. Likewise, I notice that the grass has the same color as the tree leaves do in summer. The second observation we make regards our language. In particular, it regards subject predicate discourse.   As far as I am aware, most languages follow a similar grammatical structure. Each sentence contains a subject and a predicate. As far as rough meaning goes, subjects are supposed to be substances, and predicates are supposed to give us some kind of information about the substances. It's interesting that so many - perhaps all - languages follow this template. The third observation is that there are abstract terms that behave grammatically as subjects, i.e. there seem to be cases of abstract reference. A good number of abstract terms can serve as subjects when appended with suffixes like "-ness," "-ity," or "-age." Examples include words like redness or simplicity.   We find these kinds of words serving in subjects of numerous sentences, like "Simplicity is a virtue," or "Redness is found in many flowers."

Given these observations, we can proceed to ask why these observations are true. Why is there attribute agreement? Why is there subject predicate discourse? Why do abstract terms refer? As I discussed in the second chapter, a common route to take in explanation is to posit the existence of some mind independent entity that does the explanatory work by either grounding or causing the observations in question. So, one might explain the above three observations by positing some category of mind independent entities. A popular term for these entities is "universals." Universals explain why there is attribute agreement. Why are grass and tree leaves similar? There is some entity called greenness that grass and tree leaves bear some relation to. Thus, we can truly say that grass and tree leaves are the *same* color because there really is just one entity, i.e. greenness, that is related to both. Secondly, universals can explain subject predicate discourse. The reason why subject predicate discourse works is because it corresponds to a reality wherein there are particulars and universals that correspond to subjects and predicates respectively. Here reality fits in quite nicely with our language

straightforwardly interpreted. The third observation is the most straightforwardly explained. Abstract

terms can play the grammatical role of subjects and thus are able to refer. Why is this true? Because

there are universals that act as the referents of abstract terms. This general approach to explaining the

observations is often known as Platonism or realism about properties. These sorts of views may vary in

how they go over the particulars about universals and their relation to particulars.

This is one possible route in explaining the three observations. However, as I also noted in

chapter two, there is another approach available. Instead of positing the existence of some novel entity

that does the explanatory work, one may instead opt to appeal to entities that have already been

accounted for in our ontological inventory. This sort of explanation is what I called a "debunking"

explanation. This kind of explanation is prominent in this debate, and often goes by the name of

Nominalism. At its most general, Nominalism simply denies the existence of universals, and then goes

on to provide alternative explanations to the three observations without appealing to any further

entities.   For instance, one can adopt an approach to Nominalism wherein talk of attribute agreement,

subject predicate discourse, and abstract reference is understood merely as talk of mental constructs.[80]

So, the reason why there is attribute agreement is because our mind groups together our experiences

and places them in various categories. Subject predicate discourse is explained as simply a way of

expressing our conceptual framework. Finally, "abstract" reference is explained as reference to our

mental concepts. The three observations, then, don't tell us anything new about mind independent

reality, but instead tell us about ourselves and how we work.

Here we notice a marked difference between this case study and the previous case study on

material constitution. In the example involving material constitution, a puzzle arose because none of

the theories were consistent with all of the observations. The example here involving the debate about

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[80] I'm not sure if any form of Nominalism that is defended in the literature adopts this kind of "mental construct" view. Whether or not this view is something that some philosopher actually holds is irrelevant. It's merely a placeholder view to show how different theories explain the same evidence.

properties is the opposite. All of the theories are consistent with the evidence so far given. This is a standard case of underdetermination. Both Platonism and Nominalism are consistent with the observations that there is attribute agreement, subject predicate discourse, and abstract reference. Both are logically inconsistent with each other in that one posits the existence of universals, whereas the other denies the existence of universals. Both are metaphysical explanations in that they tell us what grounds the phenomena that we observe. Platonism says that the observations are grounded in the existence of universals. Nominalism (or at least a certain kind of Nominalism) says that the observations are grounded in mental constructs.   In the material constitution case, the strategy has been to show that at least one of the observations should be taken off the table as relevant evidence. In the universals case, we go in the other direction. Participants in the debate often look for more evidence, and try to acquire enough so that one theory gets eliminated as a result of being inconsistent with the newfound evidence.

So, the upshot of this section is this. Disputes in metaphysics often begin in one of these two categories. Either there is some puzzle, which means there is too much evidence, or there is underdetermination, in which case there is not enough evidence. One might point out that disputes can sometimes be resolved by showing that a theory is somehow internally incoherent. Given that many of the disputes found in metaphysics have gone on for centuries, and given how much refinement many of these theories have undergone, let us set this point aside and assume that most relevant disputes found in contemporary metaphysics involve theories that are internally consistent. Bearing in mind these two kinds of disputes, I will now proceed to explore the nature of dispute in general and how it plays out in metaphysics.

2. Disagreement in metaphysics

The primary focus of this chapter is to figure out, or at least make some progress in figuring out the problem of disagreement in metaphysics. Roughly put, disagreement occurs when two parties in a

discussion assert p and not p respectively (or they assert something that implies one of those claims).

Disagreement happens all the time in metaphysics, as it does in every corner of academic scholarship.

What's notable about disagreement in metaphysics, and disagreement in philosophy in general, is the

extent to which these disputes have persisted. For instance, consider the example given in the previous

section regarding Platonism and Nominalism about properties. One can reasonably assert that this

debate has persisted for about 2,400 years. That's a long time for a debate to go without finding

resolution. We can point to numerous other disputes in philosophy that have persisted for quite some

time. Why is this the case?

Resolving disagreement comes down to examining the disputing claims (or theories) and their

relationship to the evidence. The first condition that is necessary for the possibility of a resolved dispute

is that the relevant evidence is recognized as relevant by both sides of the dispute.[81]

Consider how this works in ordinary cases. Suppose you and I are disputing over today's

weather. I claim that it is raining right now. You claim that it is not raining. Typically, all we have to do

in order to resolve this dispute is look out of the window. Notice what happens when we do this. We

gain a piece of relevant evidence that we both accept. Suppose that we look out and see the sun and

clear skies. This newfound piece of evidence eliminates my claim, since my claim implies that it is not

sunny, and is thus inconsistent with the evidence. Here's another example. Suppose you and I disagree

about the winner of last night's game. We might then consult espn.com for last night's scores. This

newfound piece of relevant evidence will most likely eliminate one of our claims.

The upshot from these simple examples is this: In most cases, given that there is evidence that is

accepted as relevant by both sides of the dispute, resolving disagreements is simply a matter of having

enough mutually accepted relevant evidence to eliminate all but one theory.[82] Things, however, are not

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[81] This claim is crucial for understanding persisting disagreement. I'll return to this point below.

[82] There may be cases where it is impossible for whatever reason to eliminate all but one theory. My prima facie judgment is that disagreement in these cases is in principle unresolvable. I generally don't think that there are

always so clear cut. Not all evidence is mutually accepted, and there are often disputes about the

relevancy of some observation. Consider the two examples that I gave in the previous paragraph. In the

case about the weather, new evidence was obtained via sense perception. In the case regarding the

game, new evidence was gained via testimony (i.e. the reporting on espn.com). The second is different

in that it seems a little more plausible for someone to doubt the veracity of the claims reported on the

website. If the information on the website is inconsistent with the claim, but I somehow convince you

that the information given is false, or that the website is unreliable, then that information has been

effectively removed from our pool of relevant evidence. The dispute at this point remains unresolved.

Such a relationship between theory and evidence need not always be binary in the sense that

the theory is either consistent or inconsistent with the evidence. As anyone with any passing familiarity

with Bayesian theory knows, the relationship between theory and evidence can also be probabilistic.

Relevant evidence can raise or lower by some degree the probability of a theory's being true.   For

instance, consider a murder investigation case. A new finding shows that one of the murder suspects

was in a city 3000 miles from the scene of the crime on the day of the murder. While it is still possible

that the suspect could have traveled the distance, committed the murder, and traveled back, it makes

his committing the crime less likely relative to other suspects who were closer to the scene of the crime.

Disputes, then, proceed in a manner that is similar to a game, where relevant evidence is how

score is kept. Some might seek new evidence to put one theory ahead probabilistically, or to completely

eliminate another from contention.   Others might seek to eliminate some of the evidence already on

the table in order to even the probabilistic score, or to put a theory back in the race.

Examining and fine tuning the relevant evidence is how progress is made in persistent disputes.

Evidence is either added or taken out. In the previous section we saw that there were two examples of

metaphysical disputes that illustrated the need for adjustment in the evidence. In the material

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such cases. As I will note below, I think that there is more than enough evidence. The problem is that what
evidence is accepted as relevant by all disputing parties is itself a matter of dispute.

constitution case, we saw that the evidence eliminated every theory on the table, so that pruning the relevant evidence was required in order to proceed. In the properties case we saw an instance of underdetermination, i.e. the available evidence does not eliminate all but one theory. The straightforward solution to underdetermination is to add more relevant evidence. The problem in metaphysics is that it is not so easy to add or remove relevant evidence such that the resulting body of evidence is one that all disputants accept. This difficulty is what explains the extent to which metaphysical disputes have persisted. In the next section, I will cover some attempts have been made in order to fine tune the evidence and consider how successful they have been. (Spoiler: They're not successful.)

3. Attempts at resolving disagreement

Resolving disagreement can be understood as a process whereby disputants argue over what evidence is relevant and what is irrelevant. Arguing that some piece of evidence is irrelevant is an attempt at what I call "eliminating" evidence. Arguing that some piece evidence is relevant is an attempt at what I call "adding" evidence. If both parties of the dispute accept as relevant a body of evidence that is large enough to eliminate all but one theory, then the disagreement is resolved. In this section, I'll go over a few of the methods that metaphysicians employ to accomplish this end.

One way of eliminating evidence is by paraphrasing. In paraphrasing, a claim that has some kind of evidential import is transformed in such a way as to remove the evidential relevance, thus allowing for some theory to remain in contention. There's a familiar example in debates on mereology and the ontology of ordinary objects, one that I mentioned in a previous chapter. A theory called mereological nihilism claims that only mereological simples exist. Opponents of nihilism may claim that part of the relevant evidence is the observation that there exist many composite objects, such as tables and chairs. This seems straightforwardly inconsistent with nihilism. Nihilism is now in danger of being eliminated

from contention. The classic nihilist response is that of paraphrase.[83] The nihilist argues that the claim

that tables exist can be paraphrased to the claim that there exist mereological simples that are arranged

table-wise. This paraphrase can be applied to all seeming composite objects. If we replace the claim

that tables exist with the claim that there exist simples arranged table-wise in our pool of relevant

evidence, then nihilism is no longer ruled out as being inconsistent with the evidence. By paraphrasing,

participants in a metaphysical debate can potentially remove evidence that would eliminate some

particular theory. As a general observation, paraphrasing is a common move for defenders of

debunking explanations. There is some evidence that seems to require the positing of some novel entity

in order to explain it. The debunker shows that this evidence is not what it seems, and shows that it can

be paraphrased away so that there is no need for the novel entity to do any explanatory work.

Typically paraphrasing is a defensive move. It's used to keep a theory in the running, and so in

these cases does not resolve disagreement. However, this needn't always be the case. Consider the

example in the previous section regarding material constitution. The case was problematic because all

of the observations together eliminated all theories. The mereological nihilist can use the paraphrase

strategy to remove one of the aforementioned claims from the pool of relevant evidence, thus allowing

her theory to remain as a viable candidate while potentially eliminating the others. In this case, the

relevant claim is (1), which states that there exists a statue, and that there exists a mass of clay that

composes it. According to the nihilist, statues and masses of clay don't exist. She would remove (1)

from the pool of evidence and replace it with a paraphrase, such as "There exist particles arranged

statue-wise, and there exist particles arranged mass-of-clay-wise that compose them."[84] Nihilism is

consistent with the paraphrase and, mutatis mutandis, all of the other claims in the pool of evidence.

 None of the other theories are consistent with this pool of evidence. So, this move would make nihilism

the winning theory.

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[83] See van Inwagen, (1990) ch. 11.
[84] This formulation is probably not correct, but nothing hangs on the formulation.

Another common move that can either add or eliminate evidence is that of making distinctions. Distinctions should be familiar to all philosophers. A key concept (or concepts) in some evidential claim is argued to be ambiguous between at least two readings. One reading is removed from the pool of evidence, while the other is retained. Which is kept and which is dismissed will vary from situation to situation. A classic example of the use of distinctions comes from Thomas Aquinas.[85] Aquinas considers whether or not freedom is compatible with divine foreknowledge. In this scenario, God has foreknowledge of human actions by way of seeing them in some fashion. Furthermore, claims like the following seem to be true, "What is seen to be sitting is necessarily sitting." The preceding claim seems to provide evidence against the compatibility of freedom and divine foreknowledge. Aquinas attempts to restore compatibility by arguing that the term "necessarily" is ambiguous between two readings. This is the well known *de dicto/ de re* distinction. Under the de dicto reading, the claim is interpreted as "Necessarily, whatever is seen to be sitting is sitting." The de re reading interprets the claim as "Whatever is seen to be sitting is necessarily (i.e. essentially) sitting." The de dicto interpretation is a trivial truth and can be retained as relevant evidence. It is consistent with the claim that freedom is compatible with divine foreknowledge. The de re interpretation is, however, non-trivial. Aquinas, goes on to argue that we should reject this interpretation, since it is false. One reading is kept but is shown to be consistent. The other reading is inconsistent with the theory, but is rejected as relevant evidence. Like the paraphrase maneuver, this way of employing distinctions is used to preserve a theory. Distinctions, of course, can be used both defensively and offensively. Let's go back to the material constitution case. Consider (4), which states that if statue and clay share all of the same parts at the same time, then they are identical. Jeffrey Brower and Michael argue that the term "identical" is ambiguous, and defend a distinction between strict identity and numerical sameness without identity.[86] If this distinction is accepted, then (4) would be interpreted as, "If statue and clay share all of the same

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[85] Summa Theologica, First Part, Question 19, Article 3.
[86] See their (2005) pp 60-61.

parts at the same time, then they are numerically same, but not identical." As with the Nihilism case above, such a move would save one theory and doom all of the others.

The third move that I consider here has been quite popular in recent years. This move is to add evidence to the pool by appealing to theoretical virtues. Theoretical virtues are properties of theories that in some way raise the probability of a theory's truth. A well known example of a theoretical virtue is parsimony, which is either a measure of a theory's complexity in formulation, or measure of number of entities that the theory is ontologically committed to. A more parsimonious theory is one that either commits to fewer entities - fewer in kind or fewer in number - or has a simpler formulation (i.e. fewer undefined terms). Parsimony is a theoretical virtue in that a more parsimonious theory is seen as more likely to be true. Other examples include theoretical conservatism, which measures the degree to which a theory is continuous with previously established theories, and explanatory power, which measures the degree to which a theory can explain observations that may not be included as part of the relevant evidence pool. Arguing that some property or feature of a theory is virtuous, i.e. truth conducive, can be seen as attempting to add to the pool of relevant evidence. Let's consider the second case given in section two, i.e. the debate between Platonism and Nominalism about properties. We already saw that there are at least three observations in the pool of evidence: attribute agreement, subject-predicate discourse, and abstract reference. In addition to these, the Nominalist can posit a further piece of evidence to the pool, namely a principle linking the ontological parsimony of a theory to the likelihood of its truth. Given that Platonism posits the existence of abstract entities in addition to concrete entities, and is thus less parsimonious than Nominalism, including this principle of parsimony to the evidence pool would lower the probability of Platonism's truth. Nominalism would have the edge, and the debate would be settled if there were no other changes to the evidence pool

Philosophers, metaphysicians in particular, have availed themselves of a variety of methods for refining the pool of relevant evidence. How effective are these methods at resolving disagreement?

The answer, of course, is that it depends. Paraphrasing, making, distinctions, and theoretical virtues are effective at resolving disagreement only insofar as the participants in the debate accept the revised pool of evidence that is the result of such moves. Ultimately, when metaphysicians find themselves in persistent disagreement, the debate shifts to the evidence itself and whether they should accept the evidence as is, or make changes. Thus, the discourse shifts from disagreement about the truth of theories to disagreement about what comprises the relevant evidence. Here, we arrive at a problem that seems unique to philosophy. Other disciplines generally accept some kind of ultimate epistemic authority that arbitrates disagreement. This authority often serves as a methodological guide in determining what evidence is relevant. For instance, in science, acceptance of the epistemic authority of sense perception means that in principle empirical observability is a necessary condition for some evidence to be considered relevant. In philosophy, such authority seems harder to come by. A philosopher can genuinely express skepticism about anything, and if this is the case, then we arrive at a major impasse. The demand for reasons for one's assertions can only regress so far back until it becomes a brute clash of intuitions. This is often where metaphysical debates arrive. Oftentimes, whether or not some claim is admitted as relevant evidence in metaphysical debates depends on whether the participants of the debate find the claim to be intuitively true.

This is at least partly why such strategies like those mentioned above ultimately fail to convince all participants of a debate. The methods themselves, while modifying the existing evidence, are themselves pieces of evidence waiting to be admitted to the pool of relevant evidence. Take, for instance, the use of ontological parsimony as a theoretical virtue. In order for the principle of ontological parsimony to apply to a particular dispute, disputants must accept the claim that reality is in some sense parsimonious. So, to the surprise of virtually no one, whether or not such methods should be admitted in particular cases will be controversial. Again, such disputes seem to wind their way inevitably to a brute clash of a priori intuition. At this point, there seems to be little hope for resolution,

barring any major insight or discovery.   This is at least partly why disagreement persists, especially in metaphysical debates, which are already very abstract and conducted largely at an a priori level.

4. Metaphysical disagreement and justification

The last section was devoted to various attempts at resolving persistent disagreement in metaphysics. What I concluded from that section was that the use of such strategies to resolve disagreement is successful only insofar as the participants of the dispute accept those strategies as epistemically legitimate, or they accept the reasons given in support of such strategies. Therein lies the problem. Disagreement will always persist if there is skepticism of some sort had by one of the disagreeing parties with respect to some piece of evidence and whether it should be considered relevant. In the face of such persisting disagreement, what are we to make of our justificatory status? I argued in previous chapters that an individual is justified in believing some metaphysical claim if she incorporates that claim into the right kind of explanatory role vis a vis some body of relevant evidence. Does the fact that there are persisting disputes affect this justification at all?

First, a quick survey on the literature on disagreement and justification.[87] The kind of disagreement that has been the focus of much discussion recently has been that of peer disagreement. These discussions consider what the epistemic ramifications are in situations where there is disagreement among epistemic peers. What is an epistemic peer? Individuals are epistemic peers when the following two conditions are met:

1. The individuals share all of the evidence.

2. The individuals are equal (or close enough) with respect to their intellectual ability, i.e. their ability to analyze and interpret the evidence.[88]

In such cases of peer disagreement, the discussion revolves around whether and individual should adjust her credence of belief in a particular claim in light of the fact that the claim is being disputed by an

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[87] See the introduction to Feldman and Warfield (eds.) (2010).
[88] Feldman and Warfield (eds.) (2010) pp. 2-3.

epistemic peer. Some argue that disputants should hold fast and not revise their credence at all. Others argue that the disputants should adjust their credence to match the average of the credence held by the disputing parties. Still others argue for some intermediate position.[89]

For the purposes of our discussion, we shall assume that (2) is satisfied, i.e. that disputing parties in metaphysical disagreements are on a par with respect to their intellectual abilities. With that said, (1) needs further clarification. What does it mean to "share" all of the evidence? We can make use of the distinction between mere observation and relevant evidence in order to clarify on what it means to share evidence. First, sharing evidence could mean that both parties involved in the dispute are simply aware of all of the observations. Second, sharing evidence could mean that both parties agree to what observations count as relevant evidence. I believe that the second interpretation is the correct one for the following reason. Simply being aware of some set of observations is not enough for an individual to be able to assert some claim and dispute its negation. This is the case because a theory doesn't bear any relation to mere observations. Instead, a theory bears the appropriate explanatory relation to relevant evidence. If a theory bears no relation to mere observation, then it wouldn't make much sense to assert a theory on the basis of its role to said observations. Thus, if we were to take the first interpretation of evidence sharing to be the correct one, then individuals would be disputing claims that bear no relation to the evidence. This would indeed be a strange account of peer disagreement. As a result, it seems far more plausible to hold that evidence sharing is interpreted in the second way, i.e. that disputing parties x and y share evidence just in case x and y both take the same set of observations as relevant evidence.

Another issue that is pertinent to clarifying the notion of evidence sharing regards the evidence itself. In many ordinary cases, disputants will share evidence in the second sense. However, the body of relevant evidence will underdetermine the competing theories. We can return to examples involving

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[89] See Fumerton in Feldman & Warfield (2010) for an example of a steadfast view. See Christensen (2007) for an example of a conciliatory view. See Kelly (2010) for an example of a moderate view.

murder investigations to illustrate this point. In such cases, you might have two detectives that disagree on who the killer might be. However, the available relevant evidence doesn't rule out either the first detective's suspect or the second detective's suspect. In such cases, it seems plausible to think that there is a legitimate case of peer disagreement, and whether (and how) disputing parties should adjust their credences given the disagreement is still a live debate.

However, there is an alternative scenario. In such cases, we first note that there is some large set of observations that could potentially count as relevant evidence. Just as in the previously mentioned case regarding material constitution, this set would eliminate all theories from contention. Given that, there exists at least one subset that would eliminate all but one theory from contention. In these kinds of disputes, it is not the case that disputants agree as to what counts as relevant evidence. If they did, it would be likely that the dispute would be resolved. Instead, disputants take different subsets of the set of observations to be the relevant evidence. If we interpret "sharing the evidence" in the second way, then disputants in these cases do not share the evidence. That is, disputing parties do not agree that a certain set of observation counts as relevant evidence.

My contention is that many, perhaps most, disputes in metaphysics fall under this latter type. Many such disputes have gone long enough where it is unlikely that there will be some observation or set of observations that will be considered as potentially relevant. All of the observations at hand, though, comprise a set which would eliminate every competing theory. Such observations include various a priori principles regarding the nature of reality, principles that ground theoretical virtues, principles that govern the relationship between scientific observation and metaphysical theorizing, and etc. If we accept that the second interpretation of evidence sharing is the correct one, and if we also accept that many metaphysical disputes are those in which disputants disagree as to what the relevant evidence is, then it follows that in many metaphysical disputes, disputing parties do not share the evidence. If evidence sharing is a necessary condition for there to be peer disagreement, then we infer

that in many metaphysical disputes, there is no peer disagreement. If there is no peer disagreement in

metaphysical disputes, then the mere fact that there is disagreement should play no role in affecting

one's credence with respect to the beliefs under dispute.

As stated in the previous section, disagreement in metaphysics (and probably philosophy in

general) collapses into disagreement about evidence.   The reason why such disagreement persists is

that there is no independent epistemic authority that adjudicates disputes. If one party has some a

priori insight that generates a belief in some claim p, and another has an insight that generates a belief

in not-p, then unless these sorts of claims have consequences that can be confirmed or disconfirmed by

other accepted sources of justification, it seems that such disputes have no resolution.[90]

This is where we find ourselves in metaphysical disputes. Persistent metaphysical disputes are

ones where the evidence itself is in dispute, and the evidence does not imply anything that can be

confirmed or disconfirmed by other sources of justification, like sense perception. In these cases, it's

just one a priori insight held against the other. But in cases like these, such differing insights lead to the

acceptance of differing pools of relevant evidence. An acceptance of differing pools of evidence implies

that disputants do not share the same evidence. As a result, there is no peer disagreement, and thus no

reason for such disagreement to affect one's justification. If one's belief in a metaphysical claim meets

the previously mentioned conditions (i.e. it explains the relevant evidence), then one is justified in

believing that claim. Peer disagreement by itself doesn't change that justification.[91] The only things that

would change justification would be changes to the evidence, or some discovery showing the claim to

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[90] Consider what Peter van Inwagen has to say about this regarding the dispute he had with David Lewis regarding free will:
"The difficulty of finding anything to say in response to this argument, taken together with my unwillingness to concede either that I am irrational in being an incompatibilist or that David was irrational in being a compatibilist, tempts me to suppose that I have some sort of interior incommunicable evidence (evidence David did not have) that supports incompatibilism." (in 2010, Feldman & Warfield eds.) p. 26.

[91] While I claim here that peer disagreement with respect to first order claims that play some explanatory role shouldn't affect one's justification for those claims, there is a question regarding peer disagreement regarding second order claims about what counts as relevant evidence. Here, I argue that one's justification for what counts as relevant evidence is affected by social factors. However, rather than justification being affected by peer disagreement, I hold that justification is affected by *consensus*. See chapter 5 of this dissertation.

not explain the evidence. In this way, different metaphysicians can be justified in believing different, often inconsistent claims. The reason is that these claims enter into explanatory relations with different sets of evidence. Since there doesn't seem to be anything currently that determines which set of evidence is the correct one, metaphysicians can retain their justification in the face of persisting disagreement.[92]

5. Conclusion and progress in metaphysics

So far, what I've attempted to show is that despite the difficulty in resolving metaphysical disagreements, disputants can still maintain their justification for their metaphysical beliefs. In this final section I'd like to make some comments on the notion of progress in metaphysics. This section will transition us into the last chapter of this dissertation, and so there will be some overlap between this section and the first section of the next chapter.

The question of whether or not there is progress in metaphysics is relevant because some argue that persistent disagreement is a sign that metaphysics does not progress, and that this lack of progress is a reason to think that metaphysics is not a worthwhile investiture of time and effort. Consider the observation that Ted Sider makes in the introduction to *Contemporary Debates in Metaphysics*.[93]

> Any metaphysician is bound, sooner or later, to face the following challenge. Science has been wildly successful. It has let do increasingly successful theories, technological advances, and consensus as to the truth. The history of metaphysics, on the other hand, has been as much one of wild goose chases as progress. Metaphysicians (like all philosophers!) continue to disagree about the same issues for millennia and have not sent anyone to the moon.

> This leads some philosophers to doubt that metaphysics has any value at all. A certain empiricist tradition in epistemology says that the only route to truth is through the senses, and ultimately through science. If you can't do an experiment to settle a question, the question isn't worth asking. At best, it is an idle question whose answer we will never know; at worst, the question is meaningless.

As Sider notes, this apparent lack of progress is especially embarrassing when compared to the progress of science, another discipline that is interested in producing justified beliefs and knowledge about

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[92] In chapter 5, I consider the possibility of consensus playing a role in determining what evidence is relevant.
[93] Hawthorne, Sider and Zimmerman (eds.) (2007) p. 6.

reality. In this section, I will argue that not only is progress in metaphysics possible, it has already

occurred to some great extent. The only, or perhaps primary reason why it looks like science has made

progress, whereas metaphysics has remained stagnant, is that science enjoys a widespread consensus

on many issues, whereas metaphysics does not. However, this is merely a contingent fact about both

disciplines, and does not imply anything about the epistemic merits of either.

What exactly is this "progress" that science has made and that metaphysics still lags on? A

precise definition doesn't seem easy to come by.[94] The general idea seems to be that progress is

characterized by a growing body of knowledge, i.e. the number of truths discovered by the discipline in

question. Progress is often made when there is some kind of discovery of underlying mechanisms that

do a greater amount of explanatory work. It's easy to see how science makes progress. We have more

truths about the world now than people did millennia ago. Discoveries made by luminaries such as

Newton, Boyle, Darwin, and Einstein uncovered deeper mechanisms and provided us with powerful

tools for uncovering new truths about the world.

However, what has been said so far about science can just as easily be said about metaphysics.

 What we know about metaphysics now is greater than what individuals knew about metaphysics in

times past. Perhaps we don't know more in terms of volume of information gathered, but our

metaphysical knowledge has been considerably refined and clarified over time. There doesn't seem to

be any good reason against thinking that this also counts as progression. Consider Kant's categories of

necessary/analytic/a priori and contingent/synthetic/a posteriori, further refined by Kripke in the

twentieth century with arguments for the necessary a posteriori. Or, consider Aristotle's logic of the

syllogism, further refined into modern quantified logic in the nineteenth and twentieth century by

Frege, Russell, et al. Innovations in possible worlds semantics, mereology, fundamentality, etc. have

given us powerful tools for uncovering truths about reality.

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[94] The next chapter will discuss a distinction that Jessica Wilson makes between vertical and horizontal progress.
See her (2013) pp. 145-148.

If the case between science and metaphysics is so analogous, then why does it seem apparent to some that science progresses and metaphysics doesn't? My suspicion is that it comes down to consensus. Modern science enjoys a consensus that modern metaphysics does not. The assumption seems to be that persistent disagreement about major issues in metaphysics somehow impedes progress in metaphysics. However, this assumption simply misunderstands how progress works.

What is required for progress is an accepted starting point. As Archimedes famously quoted, "Give me a place to stand, and with a lever I will move the whole world." By starting points I mean here some set of claims that are just taken as antecedently true. Science enjoys relative consensus when it comes to its starting points. Most scientists will agree that our senses are reliable, and that they give us information about the external world. They will agree with the fundamental principles of logic, math, and statistical analysis. Metaphysicians, as was discussed in the previous section, often disagree about fundamental principles, which include principles about time and space (e.g. co-location, analogy between space and time), as well as principles about logic (e.g. formulations of modal logic and the logic of parthood).

However, this consensus in science and lack thereof in metaphysics is a contingent phenomena. It is certainly possible that we all were to possess the same a priori insight about the structure of reality. Likewise, it is certainly possible that there be another group of individuals whose senses work radically differently from ours, and as such whose observations about the physical universe disagree with our current science. For instance, consider the citizens of Edwin Abbot's *Flatland*. These are individual who exist in a world with only two dimensions. Such individuals would form beliefs about the world that are radically different from ours, and their science would disagree with our science in many relevant ways.

What this shows is that progress can be made in spite of this lack of consensus. If we restrict the scope of metaphysics to various fields of inquiry, then we see lots of progress made.[95]

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[95] Jessica Wilson describes this kind of progress as "horizontal" progress. See the previous footnote.

Metaphysicians have done an excellent job at mapping out the implications of various sets of starting points, and this is progress.

One might object that in spite of the fact that metaphysicians have done a lot of conceptual mapping, they still haven't settled on the truth of those starting points, and that somehow makes metaphysics look bad. What I suspect here is that this objection presupposes that the epistemic legitimacy of metaphysics is somehow dependent on its ability to conclusively refute all skepticism with respect to metaphysical claims. This claim is clearly false. It stems from a restricted notion of progress that seems to be unfairly leveled against philosophy, while not addressed in other disciplines. Science doesn't seem to be required to address external world skeptics in order to make progress. By parity, metaphysics should not have to be required to answer skeptics about noumena in order to be able to progress. Metaphysics can do much to provide us with a significant body of knowledge even if it cannot satisfy every skeptic. This sort of attitude about metaphysics (and philosophy in general) seems to be something we've inherited from the epistemological projects conducted by luminaries such as Descartes and Kant during the early modern period. While it is certainly worthwhile to continue on with these sorts of projects, and thus to find ways of answering various forms of skepticism, it is by no means required in order for metaphysics (and philosophy in general) to progress as a discipline.

That said, however, in the next chapter I will explore the possibility of progress in metaphysics, understand in a more conventional way. Perhaps we can arrive at some consensus with respect to starting points, and thus make what Jessica Wilson calls "vertical" progress.[96]

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[96] See her (2013). See also footnote 91.

Chapter V: Progress and Methodology in Metaphysics

0. Introduction

        The final chapter of the dissertation will focus on progress in metaphysics. It may be difficult for some to accept the idea that there can be progress in metaphysics when we observe the same debates lasting over millennia with no sign of resolution.[97] In this chapter I will argue that such progress is possible and will suggest how such progress can be attained. Section one will examine the notion of progress, providing some exposition on Jessica Wilson's distinction between horizontal and vertical progress. Section two will survey the literature on methodology in metaphysics, drawing on the work of Wilson, Daniel Nolan, and Amie Thomasson. Section three will then provide some methodological suggestions on how metaphysics can progress, by appealing to notions of consensus in evidence that I discussed in the previous chapter.

1. Progress in metaphysics

        In the last chapter, I noted that some would see persistent disagreement in revisionary metaphysics as reason to believe that justification for revisionary metaphysical beliefs has been defeated. I argued that disputants retain their justification in spite of the fact that their disagreement persists over an extended period of time. I also noted that there is another outcome of persistent disagreement. Some might argue that persistent disagreement is evidence that there is little to no progress in metaphysics. So, while it may be true that revisionary metaphysical beliefs are justified, it may also be true that revisionary metaphysics contributes relatively little to our collective body of knowledge. As a result, some might argue that research programs in revisionary metaphysics are not worthwhile pursuits.

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[97] See chapter 4, section 6 of this dissertation for some discussion regarding this sort of attitude against metaphysics.

Jessica Wilson has argued that in spite of persistent disagreement, there is progress in revisionary metaphysics.[98] She argues for this by making a distinction between what she calls "vertical" progress and "horizontal" progress. Vertical progress first presupposes a "single standard paradigm, accepted by most practitioners of the field." By "paradigm", Wilson means some type of idea that is similar to what Kuhn called a "disciplinary matrix", or what Carnap called a "linguistic framework", i.e. "ways of thinking about the subject matter, which include certain theoretical and methodological assumptions effectively treated as axiomatic or constitutive of the investigative approach at issue." Given this assumption, Wilson takes vertical progress to consist in "constructing, refining, extending, exploring the consequences of, and testing theories within the constraints of, the preferred paradigm." In contrast to the vertical notion of progress, Wilson characterizes the horizontal notion of progress as consisting in "the identification and development of new paradigms – new ways of thinking about or engaging with the subject matter at issue."

Having identified this distinction with respect to progress, Wilson goes on to note that philosophical progress, and metaphysical progress in particular, can be understood either horizontally or vertically. The development of non-classical logic, such as paraconsistent logic or fuzzy logic, or the development of metaontological theories such as ontological pluralism or quantifier variance can be seen as instances of horizontal progress in metaphysics. The dialectic between competing theories like platonism and nominalism about properties, or endurantism and perdurantism about the persistence of objects can be seen as cases of vertical progress in metaphysics.

In the previous chapter, I argued that horizontal progress should be considered a worthwhile pursuit apart from whether or not there is vertical progress. Thus, negative attitudes about metaphysics that are grounded in the belief that the discipline lacks vertical progress are unjustified. Having said that, this chapter will now explore the possibility of vertical progress in metaphysics. While most would

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[98] See her (2013) pp. 145-148.

agree that there is horizontal progress in metaphysics, some might be skeptical about whether there is vertical progress in metaphysics past the stage of development and clarification, particularly when we note that it seems that dialectics such as the ones mentioned above have reached something like a stalemate. Such skepticism presupposes something about vertical progress. Vertical progress, at least in philosophy, is more than simply the development of a particular theory or paradigm, as Wilson describes above. Vertical progress must also include the resolution of long standing disputes between competing theories in such a way that one theory is shown to be true, or closest to being true.

Wilson argues that vertical progress in philosophy can be hampered by an inchoate and poorly articulated methodology. In particular, Wilson holds that the methodology of analytic metaphysics is still in its developmental stage, and vertical progress can be attained as methodological issues are sorted through and refined. Wilson then goes on to argue that certain methodological presuppositions, or what she calls "dogmas", constrain progress in metaphysics by remaining implicit and avoiding scrutiny.

I agree with Wilson that the evaluation and development of the methodology of metaphysics is what is key to vertical progress, particularly with respect to the resolution of metaphysical disputes.[99] I will thus make my own suggestions as to how metaphysical methodology can be developed and refined. Prior to doing that, I will first survey the current state of metaphysical methodology and provide some commentary regarding the status quo.

2. The current state of methodology in metaphysics

As Daniel Nolan observes in his essay "Method in Analytic Metaphysics"[100], there really is no one standard method in contemporary analytic metaphysics. Rather, what we observe is a hodgepodge of methods and principles, some subset of which guides the metaphysical theorizing of any particular self-identifying metaphysician. What I'll do here is briefly survey the various methods and principles

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[99] While the focus here is on vertical progress, it also seems quite plausible that the refinement of metaphysical methodology will also further horizontal progress in metaphysics.
[100] Found in *The Oxford Handbook of Philosophical Methodology,* Cappelen, Gendler, and Hawthorne (eds.) (2016).

described by Nolan, as well as by Jessica Wilson and Amie Thomasson. Despite what seems to be a disparity among these different methods, I will point to some commonalities in order to draw some general conclusions about what methodology in metaphysics amounts to. This in turn will lead me to the next section, in which I will make some suggestions on how we may make some methodological progress, which in turn may lead to vertical progress in first order metaphysical debates.

Nolan identifies what he takes to be five constraints on metaphysical theorizing. Those constraints are linguistic/conceptual analysis, scientific findings, intuitions, folk opinion, and theoretical virtues. [101]

Most who read this chapter will be familiar with linguistic or conceptual analysis. Such analyses involve a careful examination of language. Attempts are made to make more precise the boundaries of concepts, so that it is clearer when and how they apply. This kind of work is typically preparatory. Philosophers recognize the importance of being clear on the language and terminology before furthering their investigation. However, there are cases where such an analysis can resolve or dissolve an issue before it gets off the ground. In such cases, the analysis itself constitutes the whole of the inquiry.

The notion of a scientific finding shouldn't need any further clarification. We're just talking about the sorts of theories and observations made by the scientific community and have more or less gained consensus support. In particular, metaphysicians are interested in those accepted theories that belong primarily to fundamental physics. Many metaphysicians will agree that consistency with such theories places a constraint on metaphysical theorizing. The issue here is not so clear cut, however. One problem is that with respect to fundamental physics, it is not so clear where the physics ends and where the metaphysics begins. Consider, for example, interpretations of the measurement problem in

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[101] (2016), p. 159.

quantum mechanics. For this chapter, I will set this concern aside and proceed under the assumption that scientific findings do have some evidential import in metaphysical theorizing.

I discussed in some detail the notion of intuition in chapter 3. To quickly recap, intuitions are beliefs or "seemings" that arise from an a priori epistemic faculty that I called "rational insight." Intuition in this sense should not be confused with the ordinary sense of intuition. Such an ordinary sense refers to common sense beliefs or "conventional wisdom." Such intuitions are beliefs that are the product of what I called "snap judgments", i.e. judgments formed via some fast cognitive process that detects patterns and forms beliefs on the basis of pattern recognition.

Folk opinion refers to the sorts of beliefs that are associated with ordinary life and ordinary experience. Beliefs found in ordinary experience often become starting points for metaphysical inquiry. Examples include the belief that things change while still remaining the same, or the belief that I am in control of my actions. Such beliefs often give rise to paradoxes, and metaphysicians see their task as either explaining or explaining away such ordinary beliefs that we call "folk opinion." Metaphysicians should treat the notion of folk opinion with care, as I suspect that there is large overlap between folk opinion and beliefs generated by snap judgment.

Finally, theoretical virtues are features attributed to theories that are commonly believed to be "truth conducive". What this means is that possession of said virtues by a particular theory provides some reason to think that the theory is likely to be true. Theoretical virtues are often used as "tie breakers", i.e. as a means of resolving some long standing dispute. In chapter four, I discussed at length the use of theoretical virtues, and why I thought they ultimately fail at resolving persistent disputes in metaphysics.

So far, we have methods and principles such as conceptual analysis, intuition, folk opinion, scientific findings, and theoretical virtues. Jessica Wilson also provides some commentary on

metaphysical methodology by noting what she calls "three dogmas of metaphysical methodology."[102]

These "dogmas" refer to certain principles that guide the metaphysical theorizing of many revisionary

metaphysicians.

The first such dogma is what Wilson calls "Hume's Dictum." She formulates the principle as

follows:

HD: There are no metaphysically necessary connections between distinct, intrinsically typed

entities.[103]

A well known application of Hume's Dictum is the thesis of Humean Supervenience as defended by

David Lewis.[104] Roughly stated, the thesis is that truths about the world supervene on the distribution of

perfectly natural properties and relations.

The second dogma is what Wilson calls "composition as mereology".[105] The dogma here is that

of taking classical mereology as the only way of understanding how parts and wholes are related.

Among other things, classical mereology holds that any collection of parts compose a whole, and that

wholes with the same parts are identical. This view of mereology undergirds the universalist answer to

van Inwagen's special composition question, as well as a variety of temporal parts type views with

respect to the persistence of objects over time.

The third dogma Wilson notes is that of metametaphysics as quantifier semantics.[106] According

to this dogma, the best way to approach metametaphysical issues is via quantifier semantics, i.e. by

examining how quantifiers are interpreted both in ordinary and specialized language. As evidence that

this is the prevailing methodological view in metametaphysics, consider the essays included in the

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[102] Found in *Philosophical Methodology: The Armchair or the Laboratory?* Matthew Haug (ed.) (2013)
[103] p. 150.
[104] See his *Philosophical Papers, Volume II* (1987), introduction, p. ix.
[105] pp. 154-155.
[106] pp. 156-157.

anthology *Metametaphysics*, edited by David Chalmers, David Manley, and Ryan Wasserman.[107] Most of

the essays deal with quantifier semantics, debating on views like quantifier variance, ontological realism,

ontological pluralism, neo-Carnapianism, etc.

In addition to Nolan and Wilson's commentary, Amie Thomasson also makes some observations

about metaphysical methodology in her paper "Research Problems and Methods in Metaphysics".[108]

Thomasson first distinguishes between three general questions that metaphysics seeks to answer.

Those questions are ontological questions, relational questions, and modal questions.

Ontological questions are questions about what exists.[109] Examples of such questions include

"Do universals exist?" "Do ordinary medium sized objects exist?" "Do past and future events exist?" etc.

Thomasson notes two popular methods that have been used to resolve ontological questions. The first

is the "Quinean" method, which involves two steps.[110] The first step is to determine our best physical

theories. Usually what is considered best is determined more or less by consensus among the scientists

working in fundamental physics. The second step is to determine what precisely these theories are

ontologically committed to. This is typically done via some kind of formalization process. One such

process, among others, could be a straightforward translation into first order logic. Ontological

commitment is identified by the scope of the quantifiers in the theory. So, for instance, if a translated

theory has the sentence "$\exists x F x$", then the theory is committed to the existence of Fs.   The second

method is the "Eleatic" method attributed to David Armstrong.[111] According to this method, all and only

existent things are those things that make a causal difference.

Thomasson notes that there are now challenges to this traditional Quinean approach to

ontology. For instance, there has been a trend towards a more conventionalist approach to ontological

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[107] See their (2009) for literature.
[108] Found in *Continuum Companion to Metaphysics*, Manson and Barnard (eds.) (2012).
[109] (2012) pp. 24-28.
[110] See Quine (1953), pp. 13-14.
[111] See Armstrong (1978), pp 45-46.

questions that takes answers to some of these questions as being a matter of analyticity or conceptual analysis.[112] Furthermore, she points out that such a movement is currently underway in the area of metaontology. In particular, some defend a view like quantifier variance, which takes some ontological debates as merely verbal disputes.[113]

Relational questions are, trivially enough, questions about how things are related.[114] More specifically, examples of relations that metaphysicians are interested in include identity, constitution, truthmaking, supervenience, and grounding. The methodological idea here that Thomasson notes is that many of the aforementioned relations are put to use in a reductive project. The method is to somehow try to reduce "higher level" entities to "lower level" entities. The debate has been over what that reducing relation amounts to. Thomasson also observes that such attempts are often motivated by a more austere view of reality.

As should be familiar to many who read this, Thomasson also points out that the current focus of relational questions in metaphysics is the grounding relation. In the past ten years or so, there has been a large and growing literature on the grounding relation in metaphysics. As Thomasson rightfully observes, methodological concerns with respect to relational questions should be centered on grounding. How do we determine what grounds what? How do we "observe" grounding? How do we resolve debates about grounding?

Modal questions in metaphysics are centered around the nature of entities.[115] Such questions typically involve essences or persistence conditions. Here the methodological agenda has undergone something of a revolution during the middle of the twentieth century. Prior to Kripke, most thought that modal questions were resolved via some form of linguistic or conceptual analysis. This was due at least in part by the prevailing view that modal notions like possibility and necessity were tied to notions

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[112] See Thomasson (2015) ch. 1.
[113] See Hirsch (2010) ch. 5, 9, and 10.
[114] (2012) pp. 28-29.
[115] (2012) pp. 30-31.

of a prioricity and analyticity.[116] Kripke, however, showed that these notions could come apart. In particular, he showed that there were necessary truths that were known a posteriori, rather than a priori. If this is the case, then there are at least some questions whose answers were found not via linguistic or conceptual analysis, but rather via some other means.

Kripke's work argued for the insufficiency of conceptual analysis in resolving every modal question. However, as Thomasson argues, we are still left in the dark about how we are to go about answering these modal questions if conceptual analysis doesn't do the job on its own. Thus, there is much work to do in the epistemology of modality in order to better understand how we go about resolving these issues. One such area of development is conceivability as a guide to possibility.[117] Philosophers have and continue to explore the connections between these two notions, and further development will hopefully bear some fruit on first order modal debates.

I've given a brief exposition on three commentators, who in turn gave us their survey on the field of metaphysical methodology. Let me provide a quick summary here. Nolan mentions the following as part of metaphysical methodology:

- Conceptual Analysis
- Scientific Discovery
- Intuition
- Folk Opinion
- Theoretical Virtues

Wilson argues that the following have been *de facto* dogmas in the theorizing of many metaphysicians.

- Hume's Dictum
- Composition as mereology
- Metametaphysics and quantifier semantics

Thomasson observes the following trends in metaphysical methodology:

- The Quinean method of ontological commitment and varieties of conventionalism regarding ontological commitment.
- Movement towards grounding as the primary metaphysical relation.

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[116] See chapter three in this dissertation regarding neo-Positivism.
[117] See Gendler and Hawthorne (eds.) (2002) for literature.

- Development of modal epistemology, with a focus on conceivability.

What I'll do now is to try to organize all of this information into something that fits in with the system of explanation that I've been developing and defending thus far. What I've been saying throughout this dissertation is that metaphysical beliefs are justified if they explain the relevant sorts of data. How does all of what is mentioned above fit into this picture? First, it is clear that a good portion of what is listed above counts either as data, or as sources of data. Some are data in that they are straightforwardly metaphysical claims that act as foundational presuppositions for other theories, such as Hume's dictum, or the claim that composition is understood as classical mereology.

Others are heuristics that also serve as data in that they rely on metaphysical presuppositions. Instances of these include the variety of theoretical virtues. A theoretical virtue like simplicity is a heuristic that tells us to select the simpler theory based on the assumption that reality is in some sense simpler. Another instance is the Quinean method of ontological commitment. The method is a heuristic instructing us to read off our ontological commitments from the formalized versions of our best theories. The heuristic itself assumes that there is a certain kind of correspondence between the quantifiers and predicates of first order logic and mind independent reality. As Thomasson notes above, this assumption is challenged by those who take a more conventionalist, or "Carnappian" view of metaontology.

Finally, there are sources of data for metaphysical data. Such sources that are listed above are scientific discoveries, conceptual analysis, intuition, and folk opinion. Assuming that such sources do indeed reliably produce relevant metaphysical evidence, then the sorts of beliefs generated by these sources would be included in the pool of metaphysical data.

This accounts for all but three of the items listed above. The remaining three items are commentary about the direction in which further metaphysical research is going or should go. Wilson argues that research in metametaphysics should cover areas other than quantifier semantics.

Thomasson observes the attention that grounding has gotten in contemporary metaphysical research, and notes the fruitful potential of furthering research in conceivability as it applies to modal epistemology.

So, we can see that metaphysical methodology more or less fits the model of explanation that I've been using throughout this dissertation. What we see from the survey above is that the sort of data that is potentially relevant evidence in metaphysics comes in at least three categories. The first category of data are metaphysical principles like Hume's Dictum. The second category are heuristics that rely on underlying metaphysical principles, like theoretical virtues. The third category are sources of data, like intuition and scientific discovery. The job of metaphysical theorizing is to formulate a view that is both consistent with all of this data and also enters into an appropriate explanatory relation with the data. The issue, as I pointed out in the last chapter, is that the metaphysical community does not accept one single body of data as relevant evidence. Various individuals, or groups of individuals will accept some proper subset of the above listed items as relevant evidence. Others might accept some items that were not surveyed above. The point is that there is no consensus on what counts as relevant evidence in metaphysics. I believe that progress can be made in both metaphysical methodology and first order metaphysics if we can find some way to move towards consensus when it comes to evidence. Looking for ways to arrive at consensus will be the focus of the next section.

3. Evidence and Consensus

In the previous section, I briefly surveyed several accounts of metaphysical methodology. What I've shown is that much of what is considered in metaphysical methodology can be sorted into three categories of evidence: assumed claims or principles, heuristics that depend on presupposed principles, and sources of beliefs. Progress in metaphysical methodology can be made in at least two ways.

A.   Cataloging Evidence

First, progress can be made by making explicit and cataloging all of the various sorts of principles, heuristics, or sources of belief that are taken to be axiomatic by different metaphysicians. For instance, there is the law of non-contradiction, or the principle that reality is parsimonious, or the principle that conceivability is a guide to possibility (i.e. if x is conceivable, then it is possible). Cataloging all of these claims will help us to "map" the body of evidence that metaphysicians seek to explain and base their theories on.

One small example of such evidence was given in chapter four, where I discussed the case study of material constitution. Here Michael Rea, editor of the volume, *Material Constitution*, gave a list of what might be thought of us presuppositional claims in his introductory survey. Here is the list.

1. There exist entities like statues and there exist entities like masses of clay such that the latter composes the former.

2. The composition of the mass of clay is essential to it.

3. The composition of the statue is not essential to it.

4. If statue and clay share all of the same parts at the same time, then statue and clay are identical.

5. If statue and clay are identical, then it is necessary that they are identical.

This is, of course, but a small sampling of the body of evidence that metaphysicians seek to explain. Many more instances can be find by combing the literature and examining arguments given. For instance, van Inwagen's consequence argument makes the claim that we have no control over the laws of nature and the outcome of events in the distant past. This in turn relies on a certain conception of control. Sider and Lewis's argument from vagueness for unrestricted composition relies on the claim that terms like quantifiers aren't vague. Fission cases in personal identity rely on the claim that an individual cannot be fully conscious in two distinct bodies simultaneously. It would indeed be a fruitful exercise to collect and store all of these presupposed claim in some sort of database. Perhaps the

metaphysical community can create a flowchart to guide the perplexed from claims that they find

intuitively true to substantive first order metaphysical positions.

Supposing we were able to catalog all such claims, it seems likely that there is no metaphysician

that will accept every claim in the catalog. Metaphysical positions can be identified by the subset of the

cataloged data taken to be relevant evidence by adherents of the aforementioned positions. As I argued

for last chapter, disputes in metaphysics persist because disputants disagree about what counts as

relevant evidence. Since there is currently no authoritative process by which we determine what

metaphysical evidence counts as relevant, we remain gridlocked with respect to these debates.

Compare this to science, where empirical observation is taken to be more or less authoritative in

resolving disputes.

One potential reason why empirical observation is considered authoritative is because of

consensus. When it comes to what we perceive through the senses, we enjoy a very high degree of

agreement. This holds true for the scientific community. Such consensus allows the scientific

communities to verify or refute scientific findings by recreating test conditions and examining results.

This consensus seems to be enough to convince most that science is epistemically legitimate in spite of

the sorts of Cartesian skeptical concerns that might be raised about the reliability of sense perception.

Such consensus seems absent in the metaphysical community, and perhaps in the population at

large. Perhaps we can move towards a remedy for this. With respect to most claims that are potentially

pieces of evidence in metaphysics, we don't currently know the proportion of metaphysicians and

laypersons who take any one of these claims to be true.[118] This is an empirical matter. The second way

that the we might make progress in metaphysical methodology is by investigating what people believe

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[118] The closest thing that we have to a database of philosophical judgments that I'm aware of is the survey done by PhilPapers. However, this project surveyed professional philosophers on their judgments mostly with respect to developed views, such as A or B theory of time, or platonism versus nominalism. The survey didn't really cover judgments with respect to what I consider to be metaphysical evidence, as described above. The survey can be found at http://philpapers.org/surveys/results.pl.

with respect to such principles, and then determining whether or not there is any consensus. Here we

can avail ourselves to the work of experimental philosophers.

B.   *Experimental Philosophy*

Experimental philosophy is probably familiar to most reading this dissertation. What I

understand the task of experimental philosophy to be (at least in part) is a way of trying to resolve

philosophical issues by making use of empirical observation, particularly observation in psychology. The

idea here is that in psychological methodology, we observe test subjects making certain judgments

within the context of an experiment. These judgments can serve as potential evidence for or against

some philosophical theory. Experimental philosophy has been employed to weigh in on issues in

philosophy of language, ethics, epistemology, moral responsibility, philosophy of mind, etc.[119]

We can advance methodological research in metaphysics by combining the suggestion that we

catalog the claims taken as evidence in metaphysics with the application of the methods of

experimental philosophy. The idea is simple. Use experimental philosophy to test whether there is

anything close to consensus with respect to beliefs about any particular claim. If we find that there is a

sufficient degree of consensus with respect to a particular claim, then theories that are inconsistent with

that claim might be more confidently ruled out. Such a consensus would make the data in metaphysics

closer to that of data in science, where, as I mentioned above, data enjoys a relatively high level of

consensus within the scientific community.

There are at least a few ways that this can be done. One way is look at cases in experimental

philosophy where perceptual judgments are made with respect to situations that involve concepts that

are relevant to metaphysics. Causation in particular is a currently popular area of research in

experimental philosophy.[120] Here, researchers devise scenarios to test whether or not subjects judge

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[119] See the Experimental Philosophy section in PhilPapers for an overview of the literature.
http://philpapers.org/browse/experimental-philosophy
[120] See the survey piece by David Rose and David Danks (2012).

there to be an instance of causation. Given the data, researchers then proceed to theorize about the

sorts factors the play a role in leading a subject to judge that causation occurred. These factors in turn

may be relevant when it comes to metaphysical theories about causation. Albert Michotte had

conducted these sorts of experiments.[121] These experiments tested to see what sorts of visual

conditions would affect an individual's judgment of causation. In a case that is similar to Michotte's

approach, subjects would watch a computer screen with a stationary green object on it. A red object

would move across the screen until it was next to the green object with no perceivable space between

them. The red object then stops moving, and the green object begins moving in the same direction.

This is a common case in which subjects judge there to be causation between the two objects. The

conclusion that can be drawn here is that subjects are more likely to judge that causation occurred in

cases where they perceive some sort of physical contact between two objects.[122]

Another way is to examine cases in experimental philosophy where "intuitive" judgments are

made with respect to situations that involve concepts that are relevant to metaphysics. Again, with

respect to causation, researchers find that normative considerations play a role in causal judgments. In

hypothetical cases where there is a portrayal of some agent in the thought experiments, subjects are

more likely to judge that the agent played a causal role in the scenario if they believe the agent to be

performing an action they consider to be morally wrong. Consider the following scenario taken from

Knobe and Fraser:[123]

> The receptionist in the philosophy department keeps her desk stocked with pens. The
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> administrative assistants are allowed to take the pens, but faculty members are supposed to buy
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> their own.

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[121] See L.A. Paul's summary of Michotte's work in her (2010) sec. 5.
[122] See Paul (2010) p. 471.
[123] See their (2008) p. 443.

The administrative assistants typically do take the pens. Unfortunately, so do the faculty members. The receptionist has repeatedly emailed them reminders that only administrative assistants are allowed to take the pens.

On Monday morning, one of the administrative assistants encounters Professor Smith walking past the receptionist's desk. Both take pens. Later that day, the receptionist needs to take an important message…but she has a problem. There are no pens left on her desk.

It turns out that in this case, subjects judged that the faculty member caused the problem, whereas the administrative assistant did not cause the problem. Such results then lead theorists to consider what role normative considerations play in judgments of causation, and whether such considerations are metaphysically relevant.

These sorts of approaches can be applied to a variety of metaphysical issues. These issues include the metaphysics of time, change, identity and persistence, objecthood, properties, or possibility. For instance, we could devise experiments that might shed some light on how individuals detect change, or how they might perceive the passage of time. We might run tests to investigate how individuals engage in counterfactual reasoning, or test how individuals interact with their environment in order to examine how they perceive objects in space. Such research could be a fruitful source of data, and may lead us to some sort of consensus when it comes to at least a few metaphysical presuppositions.

This sort of testing would be coupled with the more traditional use of thought experiments and surveys regarding judgments on various metaphysical claims taken to be presuppositions in certain theories. By actually going out and finding out what people actually believe about metaphysics, and by examining how they perceive things relevant to metaphysics, we can collect a body of data that will provide a great deal of perspective on the ongoing debates.

C. Issues with experimental philosophy

Such an experimental approach is not without its challenges, of course. Many of these challenges are challenges that experimental philosophers face in general. One such challenge is to determine whether or not there is a way to test for what I called "rational insight" in chapter two, as opposed to what I called "snap judgment" in the same chapter. Recall that a snap judgment is a kind of belief that is formed via some kind of fast cognitive process. Snap judgments as a source of belief is derivative in the same sense that memory is a derivative source of belief. Rational insight, on the other hand, is a kind of belief that arises out of a different sort of process. I argued that a priori beliefs about math and logic arise out of rational insight, and that rational insight is similar to sense perception. Both sense perception and rational insight are similar at least with respect to the fact that they are basic sources of beliefs. The beliefs that they generate don't depend on any prior existing set of beliefs.

When collecting data in experimental philosophy, it is important to be able to discern whether or not the responses given by participants are generated via snap judgment or by rational insight. For instance, when posed with a thought experiment in ethics like the Trolley Problem, responses might be interpreted as snap judgments, and thus generated out of a set of background beliefs about morality that have been shaped by environmental factors such as religion, culture, politics, etc. On the other hand, responses might be interpreted as being generated by rational insight, in which case such responses are not indicative of some kind of environmental influence, but rather indicative of some deeper, more fundamental insight. While snap judgment responses might be useful in the social sciences, they don't particularly seem to be of much use in philosophy, at least when it comes to the role they might play in adjudicating long standing debates. This is especially true in metaphysics. It seems clear that if consensus with respect to various metaphysical principles is to play an evidential role in metaphysical debates, that consensus should be based on beliefs generated by rational insight, as opposed to those generated by snap judgments.

This issue of whether responses in experimental philosophy are generated via snap judgment or rational insight is certainly a pertinent one with respect to methodology. There are reasons to be skeptical. One might argue that all responses are more or less generated by snap judgment, and that there is no underlying rational insight, at least with respect to research done on certain philosophical areas. But perhaps there are means by which we can be justified in believing that judgments garnered in experimental philosophy are generated rational insight, and not mere snap judgment. One suggestion that I have to offer here is that there may be fruitful data to be gathered in early childhood psychology.   The line of reasoning here is that earliest formed beliefs are the ones least likely to be influenced by an individual's social environment. At this stage we may be able to test to see how infants and young children engage with the world around, e.g. how they detect motion, change, sameness, etc. If it is possible to test for such beliefs with respect to metaphysical issues like time, space, causation, persistence, change, etc in young children, then there may be some optimism in taking such beliefs to be generated by rational insights, rather than snap judgments.

D. Consensus and Epistemic Justification

One last issue that I would like to address stems from concerns discussed in chapter four. Chapter four dealt in part with the question of whether peer disagreement affected one's epistemic justification for some metaphysical proposition. We can ask the same question about consensus. Does consensus belief with respect to some proposition (in particular, propositions taken as evidence in metaphysical theorizing) affect one's epistemic justification for that proposition?

Before answering this question, I want to set aside methodological concerns mentioned above regarding whether or not we can actually identify pretheoretical beliefs about metaphysical evidence from either laypersons or professionals. I will assume for this part of the discussion that we are somehow able to identify these beliefs via empirical work and thus are able to determine whether or not there is consensus with respect to these beliefs. Furthermore, I'd like to point out that the project

of investigating consensus with respect to metaphysical evidence is worthwhile regardless of whether or

not consensus has any effect on one's justification for some belief. I believe this to be the case because

the state of consensus (or lack thereof) with respect to some belief about some metaphysical evidence

is itself an observation that is worth explaining and theorizing about. Suppose that there is near

universal consensus regarding the metaphysical basis of ontological parsimony. That is, suppose that

nearly everyone did in fact believe that reality is ontologically sparse with respect to kinds of entities.

This finding is highly interesting, and worth thinking about. Do we conclude, as I did in chapter three

with respect to other beliefs that are nearly universally held, that the best explanation is a realist one,

i.e. that reality really is ontologically sparse? Or, do we attempt to provide some other explanation and

argue for its superiority? Again, suppose that it turns out that there is no consensus with respect to

Leibniz's Law. Again, this result would be highly interesting, and worth theorizing about.

My current inclination is to hold that consensus with respect to beliefs about metaphysical

evidence does affect one's justificatory status. Furthermore, the strength of the justificatory effect, i.e.

the degree of change with respect to one's normative credence, will vary more or less positively with the

size of the consensus, i.e. number of people who believe the relevant claim, other things held equal.

One reason for believing this relies on the analogy that I made in chapter three between a priori rational

insight and sense perception. Moreover, I rely on the intuition that consensus has a justificatory effect

on beliefs that arise via sense perception. Consider this thought experiment. Suppose that I am in a

large room that has normal lighting. There is a table in the room, and I see a red jar on the table.

Someone else walks into the room and reports that there is a green jar on the table. I might find their

report unusual, but I might also persist with my belief that the jar is red. Suppose, however, that a

second person enters the room and reports a green jar, then a third, a fourth, and so on. With each

additional individual reporting a green jar on the table, my normative credence with respect to the

belief that there is a red jar on the table marginally diminishes. If the reader agrees with the results of

this thought experiment, and if the reader agrees that a priori rational insight and sense perception are relevantly analogous, then it follows that consensus should also have a similar justificatory effect to credence with respect to beliefs in metaphysical evidence, since beliefs about metaphysical evidence are generated via a priori rational insight.

In chapter four, I argued that disputing parties can maintain their justification with respect to competing metaphysical theories. However, I am now claiming that consensus can and should affect one's justification. This prima facie tension can be straightforwardly resolved. Cases of peer disagreement in metaphysics are cases where the dispute revolves around competing theories and their explanatory relation to the evidence. I argued that in cases like these, there is no real peer disagreement because there is no full agreement about what constitutes the relevant evidence. As a result, disputants do not share the evidence and are thus not disagreeing peers. The situation regarding disagreement with respect to the truth of some claim that constitutes metaphysical evidence differs. Here, the dispute does not involve some competing theories and their role in explaining some body of evidence. Rather, what we have instead is a brute clash of intuitions. In these sorts of cases, it seems that all we can rely on is the proper functioning of our belief forming mechanisms. So, while we may be able to retain our justification with respect to disagreements about theories, it seems that cases regarding beliefs arising from a priori rational insight are not the same.

Some might object by raising the concern that consensus is not always a reliable guide to truth. Instances where consensus can go awry can be found in areas like ethics. In the ancient world, there was consensus across societies that slavery was morally permissible. Until relatively recently, there was consensus across societies that it was morally permissible to subjugate women in various ways. Cases like these provide some evidence to think that consensus isn't always reliable. This might raise a skeptical worry about consensus as it pertains to beliefs in metaphysical evidence. There are two possible responses to this concern. The first is to draw a distinction between moral intuitions and

metaphysical intuitions. With this distinction in hand, one might argue that consensus with respect to beliefs in metaphysical evidence is generally more reliable than consensus with respect to moral intuitions. At the very least, it seems harder to come up with cases where there was mistaken consensus with respect to some metaphysical intuition. The second possible response is to argue that while it may be true that consensus is not always reliable, it is reliable in a majority of cases. Since it is probable that a consensus belief in some proposition *p* is reliably true, it still has a justificatory effect on one's belief in not *p*, even if that effect is attenuated to some degree. Either way, to reiterate what I said above, even if consensus has no justificatory effect on one's belief, it is still a worthwhile project to investigate whether there is consensus with respect to beliefs held to be foundational in metaphysical theorizing.

4. Conclusion

In this chapter I gave some suggestions as to how metaphysics can progress. The sorts of things that I suggest here, especially with respect to the cataloging of various fundamental metaphysical principles, is not something that many might find appealing as far as research work goes. Most are probably interested in trying to find something original to say, rather than doing this sort of maintenance and archival work. However, regardless of whether or not it is appealing, the work is still important. The work may be analogous to the work that some scientists do in verifying the work of other labs. Perhaps this kind of work will help us to focus our efforts on theories that rest on fundamental principles that enjoy consensus. Doing so may help us to make significant vertical progress in metaphysics.

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In my dissertation, I focus primarily on the justification for beliefs in the sorts of propositions that are the focus of scrutiny and debate in contemporary analytic metaphysics. I develop a theory of justification that revolves around the explanatory fit between a metaphysical theory and its evidence. I go on to defend the view that beliefs in contemporary analytic metaphysics are justified against skeptics, many of whom identify with the logical empiricist tradition. Finally, I offer some suggestions as to how metaphysics as a discipline can progress by examining the methodology of metaphysics and arguing how empirical work can potentially move metaphysics forward.

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Part Time Instructor (2015-Present), Teaching Associate (2010-2015), Teaching Assistant (2008-2010)
- Courses taught as Teaching Associate and Part Time Instructor:
    - PHI 107: Theories of Knowledge and Reality (Intro to Philosophy)
    - PHI 171: Critical Thinking
    - PHI 192: Introduction to Moral Theory

- o PHI 197: Human Nature
- o PHI 251: Introduction to Formal Logic
- Courses taught as Teaching Assistant:
    - o PHI 191: Ethics and Contemporary Issues
    - o PHI 251: Introduction to Formal Logic
    - o PHI 293: Ethics and the Media Professions

Onondaga Community College (2016-Present)
Adjunct Instructor
- Courses taught:
    - o PHI 101: Introduction to Philosophy
    - o PHI 102: History of Ancient Philosophy
    - o PHI 107: Logic
    - o PHI 108: Introduction to Ethics

Cazenovia College (Fall 2016)
Adjunct Instructor
- Course taught:
    - o HU 361: Commitment & Choice (Applied Ethics)

University of Wisconsin-Milwaukee, Milwaukee, WI (2006-2008)
Instructor (2007-2008), Teaching Assistant (2006-2007)
- Courses taught as Instructor:
    - o PHILOS 211: Introduction to Formal Logic
- Courses taught as Teaching Assistant:
    - o PHILOS 211: Introduction to Formal Logic

Presentations
"His Ways (of Being) Are Not Our Ways"
Society of Christian Philosophers, Eastern Regional Meeting, Niagara University (2014)

"A Defense of Plenitudinous Co-Locationism"
Working Papers Seminar, Syracuse University (2011)

"Disagreeing About Modal Disagreement,"
Rocky Mountain Philosophy Conference, University of Colorado, Boulder (2008)

"Disagreeing About Modal Disagreement"
Graduate Philosophy Conference, University of Illinois, Urbana-Champaign (2008)

"Vagueness, Composition, and Candidacy"
Intermountain West Philosophy Conference, University of Utah (2007)

"Vagueness, Composition, and Candidacy"

Annual Meeting, Wisconsin Philosophical Association (2007)

Honors and Awards

Best Graduate Paper, Society of Christian Philosophers Eastern Regional Meeting (2014)

Teaching Assistantship, Philosophy Department, Syracuse University (2008-2011)

Summer Research Fellowship, Philosophy Department, Syracuse University (2009)

Teaching Assistantship, Philosophy Department, University of Wisconsin-Milwaukee (2006-2008)

Travel Grant to attend the Rocky Mountain Philosophy Conference at the University of Colorado, Boulder (2008)

Travel Grant to attend the Graduate Philosophy Conference at the University of Illinois, Urbana-Champaign (2008)

Travel Grant to attend the Intermountain West Philosophy Conference at the University of Utah (2007)

Travel Grant to attend the Wisconsin Philosophical Association Annual Meeting (2007)

Graduate Coursework

At Syracuse University:
Plural Predication and Quantification
Free Will
Natural Kinds
History of Analytic Ethics
Causation in Early Modern Philosophy
Self-Knowledge
Existence
Material Constitution (Independent study with Mark Heller)
Aristotle's Metaphysics
Fundamentality in Metaphysics

At University of Wisconsin-Milwaukee:
Moral Emotions
Descartes
Philosophy of Physics
Metalogic
Modality
Mathematical Logic
Philosophy of Language
Skepticism

Audited at University of Rochester:
Philosophical Theology

Audited at Cornell University:
Quantitative Properties

References
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Ben Bradley, Allan and Anita Sutton Professor of Philosophy, Philosophy Department, Syracuse University
315-443-5813, wbradley@syr.edu